graduate studies

1969 | 70

WEST CHESTER
State College Bulletin

Graduate Studies Calendar

FALL SEMESTER 1969

Registration	September 3-4 (Wednesday-Thursday) 4:30 to 7:00 p.m.
Classes begin	September 8 (Monday)
Thanksgiving Recess begins	November 25 (Tuesday) as classes end
Thanksgiving Recess ends	December 1 (Monday) at 4 p.m.
Christmas Recess begins	December 20 (Saturday) as classes end
Christmas Recess ends	January 5 (Monday) at 4 p.m.
Final Examinations	January 12-16 (Monday-Friday)
Semester ends	January 24 (Saturday)

SPRING SEMESTER 1970

Registration	January 19-20 (Monday-Tuesday) 4:30 to 7:00 p.m.
Classes begin	January 26 (Monday)
Spring-Easter Recess begins	March 21 (Saturday) at close of classes
Spring-Easter Recess ends	March 31 (Tuesday) at 4 p.m.
Final Examinations	May 11-15 (Monday-Friday)
Alumni Day	May 23 (Saturday)
Commencement	May 24 (Sunday)

SUMMER SESSIONS 1970

Pre Session Registration	May 25-26 (Monday-Tuesday) 4:30 to 7 p.m.
Pre Session	June 1-19 (begins on a Monday)
Regular Session Registration	June 16-17 (Tuesday-Wednesday) 1:00 to 4:30 p.m.
Regular Session	June 23-July 31 (begins on a Tuesday)
Post Session Registration	August 3 (Monday) 8 a.m. to 3:30 p.m.
Post Session	August 4-21 (begins on a Tuesday)

Late Registrations are held in the Graduate Office—a late fee is charged.
Students expecting to receive master's degrees in May, 1970, see page 28 for deadlines for academic procedures.

West Chester State College Bulletin

1969-70 Graduate Studies

VOLUME 97/NUMBER 5 FEBRUARY, 1969
WEST CHESTER, PENNSYLVANIA 19380

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West Chester State College is accredited by The Middle States Association of Colleges and Secondary Schools, The National Council for Accreditation of Teacher Education, The American Association for Health, Physical Education, and Recreation, and The National Association of Schools of Music.

Willard J. Trezise, *Dean of Graduate Studies*

OFFICE OF GRADUATE STUDIES

Office Hours:

8 a.m. to 5 p.m.
Monday thru Friday

8:30 a.m. to 12 Noon
on second and fourth
Saturdays

Telephones:

436-2243
436-2659
436-2943
436-2736

(Area Code 215)

Summer Hours:

8 a.m. to 5 p.m. Monday
thru Friday—no Saturdays

Second Floor—Administration Building

Staff, Office of Graduate Studies

Miss Karen Pratt	*Secretary to the Dean of Graduate Studies*
Miss Maureen Boyle	*Secretary to the Dean of Graduate Studies*
Miss Gloria Jones	*Secretary to the Dean of Graduate Studies*

Contents

Inside front cover	GRADUATE CALENDAR
IV	BOARDS
V	ADMINISTRATIVE OFFICERS
VII	GRADUATE COUNCIL
VIII	TABLE OF DEGREE PROGRAMS
1	A LOOK AT WEST CHESTER STATE COLLEGE
3	THE GRADUATE PROGRAM AT WEST CHESTER
5	ADMISSIONS
9	FEES AND EXPENSES
12	FINANCIAL AID
14	COLLEGE SERVICES AND STUDENT LIVING
18	ACADEMIC INFORMATION AND REGULATIONS (DEGREE CANDIDACY AND SUMMARY OF DEGREE REQUIREMENTS)
29	PROGRAMS AND DEGREE REQUIREMENTS
30	COLLEGE OF ARTS AND SCIENCES
31	DIVISION OF ARTS AND LETTERS
41	DIVISION OF SCIENCES AND MATHEMATICS
53	DIVISION OF SOCIAL SCIENCES
63	SCHOOL OF EDUCATION
76	SCHOOL OF HEALTH AND PHYSICAL EDUCATION
80	SCHOOL OF MUSIC
88	INTERN PROGRAM
91	COURSE DESCRIPTIONS

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[Effective as of September 15, 1968]

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* On detached service from the Department of Public Instruction.

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School of Health and Physical Education	Edwin L. Youmans
School of Music	Charles A. Sprenkle

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Division of Sciences and Mathematics	Francis J. Reynolds, *Acting Chairman Department of Chemistry*
Division of Social Sciences	Robert E. Carlson, *Chairman Department of History*
School of Education	Walter N. Ridley, *Chairman, Department of Secondary Education and Professional Studies*
School of Health and Physical Education	Melvin M. Lorback, *Chairman, Department of Physical Education*
School of Music	Paul E. Carson, *Chairman, Department of Instrumental Music*

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Division of Sciences and Mathematics	Richard G. Branton *Department of Mathematics*
Division of Social Sciences	George L. Langdon *Department of Geography*
School of Education	James E. Habecker *Department of Elementary Education*
School of Health and Physical Education	Edward N. Norris *Department of Physical Education*
School of Music	Lois M. Williams *Department of Music History and Literature*

Faculty Representative elected by Faculty Senate	William R. Overlease *Department of Biology*
Faculty Representative elected by the General Faculty	John J. Turner, Jr. *Department of History*
Non-voting member	Mary E. Nehlig *Assistant to the Director of Library Services*

Faculty lists shown in this catalogue are as of September 15, 1968.

GRADUATE PROGRAMS AT WEST CHESTER

Certification and/or Master of Education

Biology
Chemistry
Educational Media (Audio-Visual)
Elementary Education
English
French
Geography
German
Guidance and Counseling*
Health and Physical Education
Latin
Mathematics
Music Education
Physical Science
Physics
Social Science
Spanish

Master of Arts

Biology
English
History
Mathematics
Music
French
German
Latin
Spanish

Master of Music

(Pending Dept. of Public Instruction approval)

Master of Science

Chemistry
Health and Physical Education
Educational Research

* For those seeking certification in Guidance and Counseling, the master's degree is required.

The provisions of this Bulletin are not to be regarded as an irrevocable contract between the student and the College. West Chester State College reserves the right to change any provisions or requirements at any time within the student's term of attendance.

A Look at West Chester State College

WEST CHESTER, A MULTI-PURPOSE COLLEGE with a student body of more than 5,400 full-time undergraduates, is the second largest link in the system of fourteen institutions of higher learning which the Commonwealth owns and maintains for the youth of Pennsylvania. The College's objectives are to prepare teachers for Pennsylvania's public schools and to provide a liberal arts education for its youth.

West Chester traces its history back to the West Chester Academy, founded in 1812. The College has acquired its present dimensions through changes largely determined as the Commonwealth assumed increasing responsibility for the education of young Pennsylvanians. The institution became West Chester State Normal School in 1871, West Chester State Teachers College in 1927, and West Chester State College in 1962.

West Chester has expanded into North Campus and South Campus, where the new facilities of the School of Health and Physical Education are rapidly taking shape. The widened educational resources of the College include the new Francis Harvey Green Library, with approximately 180, 000 volumes; a Learning Research Center, housing a modern laboratory school and a computer center; and the Schmucker Science Center. Four new high-rise residence halls are in use and two more are in process. The new Lawrence Center provides dining halls and other student facilities.

The total program at West Chester is comprehensive and designed to satisfy the intellectual, physical, and spiritual needs of all students. A wide span of extracurricular activities affords students opportunities to mingle purposefully with their colleagues and faculty, and to seek the fullest expression of their talents and capacities.

Baccalaureate Degrees Offered

The Bachelor of Science in Education degree is given in four basic curricula—elementary, secondary, music education, and health and physical education—and in one area (speech pathology and audiology) of special education. Degree curricula for public school nurses and dental hygienists are also provided. The College has a program of courses designed to meet

certification requirements in the field of safety education and in the special education fields which train for the teaching of mentally retarded and physically handicapped children.

The liberal arts program leads to a Bachelor of Arts degree in arts and letters, social sciences, sciences, mathematics, and music; to the Bachelor of Music; and to the Bachelor of Science in Business Administration.

Location of the College

The College is in West Chester, the county seat of Chester County. With a population of 16,500, West Chester is small enough to have the pleasant aspects of a tree-shaded American town, large enough to contain essential services and the substance of a vigorous community, and old enough to give the student first-hand touch with America's early history.

West Chester was settled largely by members of the Society of Friends in the early years of the eighteenth century. The town retains many charming traces of their culture. Today, West Chester is part of the rapidly growing suburban complex adjoining Philadelphia. Students have abundant opportunities to study local, county, and regional government during an era of dynamic change and growth.

Valley Forge, the Brandywine Battlefield, and the famed Longwood Gardens are nearby and Philadelphia, with its historic and cultural attractions, is only 25 miles to the east.

How to Reach the College

ROUTE 3 (West Chester Pike) from Philadelphia.
ROUTE 100 SOUTH from Downingtown Interchange of Pennsylvania Turnpike.
RED ARROW BUSES from 69th Street Terminal in Philadelphia.
SHORT LINE BUSES from the Paoli, Downingtown, Coatesville, or Wilmington stations of Penn Central railroad.
PENN CENTRAL RAILROAD from Philadelphia to West Chester (limited schedule).

Locally, the Short Line has bus service from the West Chester terminal to the campus, a distance of one mile.

Program for In-Service Teachers

West Chester maintains an extensive two-track program for teachers in service. One phase is composed of late-afternoon, evening, and Saturday morning courses for those desiring to satisfy various professional needs, including certification requirements. The second phase is the graduate program.

The Graduate Program at West Chester

West Chester's program of graduate studies, introduced in 1959, has grown rapidly in the past decade. The College now offers the Master of Education degree in seventeen disciplines; the Master of Arts in biology, English, history, mathematics, music, French, German, Latin, and Spanish; and the Master of Science in chemistry, educational research, and health and physical education.* Pending approval by the Department of Public Instruction, the College will also offer the Master of Music.

With the in-service teacher particularly in mind, West Chester has designed its graduate studies for the fall and spring semesters around a schedule of late afternoon, evening, and Saturday morning classes. It is possible to undertake full-time graduate programs during the academic year and the summer sessions.

The total graduate enrollment for the 1968 fall semester was 1,468, of whom 56 were full-time students. Since 1961, nearly 500 graduate students have received the Master of Education degree from the College.

Administration

The graduate program is under the direction of the administrative officers of the College, the Academic Council, the Graduate Council, and the administrative officers of Graduate Studies.

The Graduate Council establishes all major policies for the administration of the program, reviews all requests for special consideration, considers recommendations from the departments of the Schools and the College of Arts and Sciences, and acts as the executive council for the College administration on all matters related to the graduate program.

The administrative officers of the graduate program are the Dean of Graduate Studies, Assistant to the Dean of Graduate Studies, the Associate Deans for Graduate Studies, the Graduate Council, and the coordinators of the graduate program.

* Approval for the M.A. and M.S. degrees was granted by the Department of Public Instruction in 1968-69.

Summer Sessions

The twelve-week Summer Sessions are divided into three periods: the Pre Session of three weeks, the Regular Session of six weeks, and the Post Session of three weeks. Credit may be earned at the rate of one semester hour per week.

Applications (see Admissions) should be filed with the Graduate Office as early as possible during the academic year preceding a Summer Session.

In addition to completing application procedures, prospective summer students must obtain from the Graduate Office a Permit to Register Card and a Registration Card, well in advance of each session. The Summer Session Graduate Bulletin, available in March, shows the dates for securing these cards and should be carefully consulted. Students with further questions are invited to call or visit the Graduate Office.

Fall and Spring Offerings

Graduate Bulletins which announce offerings and registration procedures for the fall semester may be obtained during the summer and for the spring semester, during the fall.

Admissions

West Chester welcomes qualified students, faculty, and staff from all racial, religious, ethnic, and socio-economic backgrounds and is particularly interested in encouraging black applicants for the teacher-education programs, in order to meet the need for teachers in the general service area of the College.

Students are admitted for graduate study upon giving evidence of graduation from a college or university accredited by its national, regional, and professional accrediting agencies and upon demonstrating a potential for success at the graduate level.

The Dean of Graduate Studies may admit students for varying purposes, among them:

1. To obtain the master's degree.
2. To meet certification requirements.
3. To establish credit for other reasons.
4. To gain personal growth as an auditor, receiving no credit.

Before graduate work of any kind may be undertaken, the student must gain admission to the Graduate Program, either as a **non-degree** student or as a **degree student.**

Admission Requirements for Non-Degree Students

Students who do not intend, or have not yet decided, to seek the master's degree but require credit for certification or some other valid reason are admitted as **non-degree students.**

1. The applicant must possess a baccalaureate degree.
2. He must present an overall academic average of 2.0 (with A equalling 4).
3. If, during the evaluation of an application, questions of a special nature arise, the applicant may be required to have a personal interview with a designated official of a School or Division.

Admission to graduate study does not constitute admission to a degree program and there is no guarantee that courses taken as a non-degree student may later be used to satisfy degree requirements.

AUDITORS. An auditor is merely a listener who does not necessarily do the work of the course. He obtains no credit. He makes the usual formal application and is enrolled as an **auditor.** Although he does not need to submit transcripts, he must obtain approval to audit from the department chairman or program coordinator for his course and he pays the regular basic fee.

Admission Requirements for Degree Students

Applicants for a program leading to the master's degree are considered on the basis of their academic record, interviews which evaluate their prospect for successful work at the graduate level, and various other criteria, which may include examinations or letters of recommendation.

The following admission requirements must be met:

1. The applicant must possess a baccalaureate degree.
2. He must present an undergraduate record showing an overall academic average of at least 2.5 and a grade of at least 2.75 in his concentration.
3. His admission must be approved by the School or Division whose degree program he wishes to undertake. Before such approval is given, the applicant must be interviewed by an official designated by the School or Division. **The applicant must arrange for this interview.**
4. He must fulfill all admission requirements for his intended program as outlined under Programs and Degree Requirements. To determine these, **refer to the specific program.**
5. His admission must be approved by the Dean of Graduate Studies.

An applicant who fails to meet the minimum grade requirements by a narrow margin or who has academic deficiencies in his preparation may be able to gain **provisional admission,** provided he demonstrates high academic promise. In order to remove deficiencies, he will be required to take course work which will not be credited to his degree requirements. The conditions for removal of the provisional status will be specified by the chairman or coordinator.

Students admitted to a degree program must clearly understand that admission to degree study does not constitute admission to **degree candidacy.** The degree student first enters upon a pre-candidacy period of not more than fifteen semester hours. During this period he must attain specified minimum grade averages and satisfactorily complete certain requirements, as described on page 25.

The Application Procedure

1. An application form must be secured by writing to or calling at the Graduate Office.
2. The completed form must be returned to the Graduate Office.
3. A non-refundable application fee of $10, payable to the Commonwealth of Pennsylvania, must be sent to the Office of Business Affairs.
4. The applicant must request the institution which granted his baccalaureate degree to send two official transcripts directly to the Graduate Office. Transcripts mailed or delivered by applicants are not acceptable. (If all undergraduate work was taken at West Chester, transcripts are available and the applicant need not request them.)
5. If he has done prior graduate study at another college or university, the applicant must ask that institution to send two official transcripts to the Graduate Office.
6. If the applicant finds himself confronted by special problems or questions, he is advised to request a personal interview with the Dean of Graduate Studies.

APPLICATION DEADLINE. If possible, the application procedure should be initiated at least two months before registration. Although applications will be accepted up to three weeks prior to registration, there is then risk of delay and disappointment.

Notification of Admission

As soon as decision upon an application is reached, the applicant will be notified of the decision by letter.

Registration

Upon acceptance, students should secure a Permit to Register card and a Registration card, either by writing to or calling at the Office of Graduate Studies. They should also request the semester or Summer Session Bulletin for the period in which they will be enrolled. These Bulletins outline registration procedures and list course offerings for a given semester or Summer Session.

Applicants for Advanced Standing (Credit by Transfer)

Applicants who wish to enter West Chester with credits earned through previous graduate study at another college or university may do so under the following provisions:

1. The credits must have been earned in residence at an approved graduate school.
2. The courses taken must be essentially the same as courses offered at West Chester and must be approved by the department or School in which the applicant intends to enroll at West Chester.
3. No more than six credits may be transferred.
4. The grade earned for courses to be transferred must be B or better.
5. The transcript must clearly indicate that the courses to be transferred are graduate courses.
6. The courses must have been taken recently enough to fall within the six-year time limitation.

Admission of Students with a Master's Degree

Students with a master's degree from another institution are admitted to West Chester for further work simply through a letter supplied by the conferring institution, confirming the award.

Courtesy to Transfers from Other Pennsylvania State Colleges

As a courtesy, West Chester does not require the application fee from degree students from other Pennsylvania State Colleges or Indiana University of Pennsylvania who apply to take work for transfer.

Fees and Expenses

[Fees are subject to change without notice.]

[All charges for a semester or session must be paid at registration.]

[Unless otherwise specified, all fees must be paid by check or money order payable to: Commonwealth of Pennsylvania.]

Basic Fee

Legal residents of Pennsylvania—$20 per semester hour of credit.
Out-of-state students—$25 per semester hour of credit.

Application Fee

A fee of $10, refundable under no circumstance, is required.

Late Registration Fee

All fees are due and payable on the date of registration, after which a late fee is charged.

Change–of–Course Fee

A fee of $5 is required for a change in course after registration.

Housing Fee (Summer Sessions Only)

The housing fee for resident students is $120 for the Regular Session and $60 for the Pre or Post Session. The fee covers accommodations in a double room in one of the College residence halls and meals in the dining hall in Lawrence Center. A private room is $2 additional per week. (Housing for graduate students is not available during fall and spring semesters.)

Cost for Binding the Thesis or Research Report

THESIS. Students are required to pay the imprinting and binding costs for three copies of their thesis at $3.45 each if the thesis is not more than one inch in thickness and $6.30 each if more than one inch in thickness.

RESEARCH REPORT. Students are required to pay the imprinting and binding costs for three copies of their research reports, at $3.45 each.

Instructions for the payment of these costs may be obtained at the Graduate Office.

Transcript Fee

A fee of $1 is charged for a transcript (see "Obtaining Transcripts" in Academic Information and Regulations).

Auditor Fee

An auditor (a student who attends a course without credit) pays the same fees as other students.

Music Fees

In addition to the basic fee, graduate students in music are subject to the following schedule of fees:

Instruction

Piano, Organ, Instrument or Voice—one-hour lesson each week	$55 per semester
Instrument Class or Ensemble—2 hours per week	$35 per semester

Rentals

Any Band or Orchestra Instrument—(minimum charge—$3)	$1 per week

Practice Time

Piano Room two hours per day—(minimum charge—$3)	$1 per week
Organ room two hours per day—(minimum charge—$4.50)	$1.50 per week

Instrumental Room

2 hours per day—(minimum charge—$1.50)	$.50 per week

Student Activities Fee

[Cash or check drawn to Intracollegiate Governmental Association.]

Full-time graduate students (those carrying at least nine credits) pay the I.G.A. student activities fee of $22 per semester in the fall and spring semesters. The fee admits them to all social and athletic events on student status and helps defray the cost of many cultural and special events. If they wish the benefits of the activities program, part-time students may pay the fee at their own initiative.

Both part-time and full-time students are required to pay the activities fee for all Summer Sessions. This fee, which covers—among other things—the cost of summer tours, is as follows:

$3.50 for the Regular Session

$1.75 for the Pre or Post Session

Car Permit

[Cash or check drawn to Intracollegiate Governmental Association]

Students who drive on campus are required to have a permit, available at a minimal charge at registration and in effect for 12 months. The permit for summer only is half the price of the annual registration.

Library Card/I.D. Card

In order to borrow books from the library, students must present identification. For graduate students, this may be either a Library Card or an I.D. (Identification) Card. It is a simpler procedure to obtain the Library Card, which does not require a photograph, but the I.D. card serves broader purposes and full-time students generally find it useful to have one. The fee for either card is $1. The I.D. card is issued at the College Bookstore, the Library Card at the library.

Refunds

No portion of the basic fee shall be refunded if the student has attended one-third or more than one-third of the class periods scheduled during a given session or semester.

If a student withdraws from a course, for approved reasons, before one-third of the scheduled class periods have been completed, he shall then be entitled to a refund of one-half of the fees paid.

If a student registers for a course and then withdraws before the second scheduled class meeting, he will receive a refund of all but $10.

Requests for refunds must be made in writing to the Office of Business Affairs.

Refunds will not be made to students who are suspended or dismissed or who drop courses without the approval of the Dean of Graduate Studies.

Financial Aid

Opportunities for financial aid are summarized below. Those interested may obtain detailed information from the Director of Financial Aid to Students in Lawrence Hall. Unless otherwise noted, applications for loans or assistantships are made through his office.

National Defense Student Loans

Graduate students may apply for a maximum of $1,000 per year. (The average loan is about $400.) Requirements for obtaining the loan include need, a C+ average, three letters of recommendation, and the Parents' Confidential Statement. The repayment plan follows:

1. No interest due until repayment begins.
2. Repayment begins following graduation.
3. For teachers, the loan principal is reduced by 10% annually for five years (total reduction: 50%).
4. Students who do not teach must repay the entire loan.

Pennsylvania State Loans

Under the Pennsylvania Higher Education Assistance Act of 1963, Pennsylvania residents may borrow $1,000 per academic year. Applicants must evidence satisfactory academic progress toward their degree. From the award of the loan, interest is paid quarterly. Repayment starts four months after graduation. Application forms are available in most Pennsylvania banks.

GRADUATE ASSISTANTSHIPS

Part-time Instructors

A limited number of part-time instructorships are available each year to applicants who have had three years of successful teaching or have accumulated 15 hours of graduate credit at an accredited graduate school. The successful applicant teaches six hours of class per semester on the undergraduate level or assists in a laboratory. The stipend is in the neighborhood of $2,700. Applicants may initiate inquiries either with the Dean of Graduate Studies or their department chairman or program coordinator.

Federal Work-Study Program

This program permits a full-time student to earn $1,800 during the academic year as a department aide. He works 15 hours per week for 32 weeks and 40 hours per week for three additional weeks when he is not engaged in academic pursuits.

Commonwealth Assistantships

This Commonwealth program provides a limited number of assistantships offering up to $1,200 per academic year for full-time students. The hours per week vary; 15 hours is average. Students apply for these assistantships directly to their department chairman or program coordinator or they may make inquiries in the Graduate Office.

Resident Advisers

Opportunities to serve as resident advisers for undergraduate students are open to men and women full-time students. Advisers reside in the College residence halls and guide undergraduates in their personal, social, and educational development. Recipients of adviserships receive room and board plus a stipend. Application is made to the Dean of Men or Dean of Women.

Placement Service

Every year the College Placement Service is notified of many positions of all types on all levels of instruction. Because many of these positions offer unusual opportunities for professional advancement, graduate students are encouraged to use the Placement Service.

All students pursuing graduate work at West Chester are eligible for the use of limited services provided by the Placement Service. Graduate students who have completed less than 15 semester credits have access to the listings of vacancies. Students who hold undergraduate degrees from West Chester or who have completed 15 semester credits of graduate work are eligible for the full services, which include registration, development of a complete set of credentials, and mailing of credentials to prospective employers. There is no charge for the use of the Placement Service.

College Services and Student Living

Francis Harvey Green Library

The Francis Harvey Green Library offers the graduate student excellent facilities for study. The library is housed in an attractive modern building, completed in 1966 and containing many special features, including more than 300 individual study carrels, a special-collections room, a micromedia room, a soundproof typing room, a student-faculty lounge, a children's room, and a curriculum laboratory. With a collection of more than 185, 000 volumes and subscriptions to more than 2,000 journals, the library is rapidly growing and is an increasingly important resource for both teaching and research.

The general collection is augmented by an extensive micromedia collection representing more than 300,000 volumes. The micromedia material includes books, periodicals, newspapers, and doctoral dissertations. Adequate facilities for reading this material are available. The special-collection room houses the Chester County Collection of Scientific and Historical Books; the Normal Collection (a collection of historical books on physical education and publications by and about the faculty and alumni); the **Biographies of the Signers of the Declaration of Independence,** by John Sanderson; and the Shakespeare Folios. Other collections of note are the juvenile, curriculum, and music collections and the Philips collection of autographed books. As part of a statewide program to promote world cultural understanding, the library is developing an extensive collection of materials on French culture.

The many services of the library are available to all graduate students. Of particular interest are the bibliographic, information, interlibrary loan, and photoduplication services.

Bureau of Research and Related Services

The Bureau of Research and Related Services fosters the development of basic, applied, and institutional research and provides facilities for the

tabulation and analysis of research data. The research function of the Bureau encompasses studies initiated by the faculty and administrative staff as well as cooperative endeavors carried on under the joint sponsorship of the College and various educational agencies and foundations. The Bureau assists faculty and students to secure financial support for their research projects. A computer center, statistical laboratory, and research facilities are maintained in the Learning Research Center.

Data processing services include the tabulation and summarization of information essential to the operation of the various administrative divisions of the College and the statistical treatment and computer analysis of experimental data obtained from faculty and student research activities.

The Delaware-Chester Regional Instructional Materials Center

Graduate students in teacher education may avail themselves of the facilities of the Delaware-Chester Regional Instructional Materials Center, which serves the public schools of Delaware and Chester Counties. The Center, operating under a State-supervised plan, has nearly 3,700 films and 1,700 titles dealing with many fields of elementary and secondary education.

HOUSING

West Chester is able to provide housing facilities for its graduate students only during the Summer Sessions. Accommodations in College residence halls, with board included, are available for single men or women, through the offices of the Dean of Men or Dean of Women. College-extension apartments are also available; inquiry may be made to the Dean of Men or Dean of Women.

If residing in College residence halls during the summer, graduate students are expected to abide by the housing regulations governing undergraduate student life.

Except for a limited number of the College-extension apartments available in summer, the College has no facilities for married students. Area newspapers and realtors should be consulted.

Student Health Service

To meet emergency and first-aid needs, and to perform routine infirmary treatment of minor illnesses and minor surgical conditions, two part-time physicians and four registered nurses are available, at no cost to students.

Beyond these services, the College does not furnish medical care or bear the costs of medical or surgical treatment or hospitalization. The community of West Chester has qualified physicians and excellent hospital facilities. The Service is in Reynolds Hall where, for emergencies, a nurse is on duty on a 24-hour basis.

Full-time (but not part-time) graduate students may take advantage of a group medical and accident policy, approved by the College and covering accidents and illness on a twelve-month basis. The policy may be obtained at a minimal annual premium from the Health Service.

Guidance and Counseling Center

The professional services of the Guidance and Counseling Center are available at any time to students needing assistance with problems of an academic, social, or personal nature. The staff of the Center is experienced in the administration of psychological tests, counseling, and personality evaluation. All conversations and test results are confidential. The troubled student may feel completely free to utilize the services of the Center either in daytime hours or evenings, by appointment.

The Center, which is in Old Main, also provides information, materials, and guidance concerning graduate scholarships, fellowships, and grants, and study at the graduate level.

Speech and Hearing Clinic

Graduate students who need help in meeting minimal speech standards may use the services of the Speech and Hearing Clinic at no cost. The Clinic is conducted by the Department of Speech and Theatre.

Veterans' Affairs and Selective Service Information

Veterans' affairs are dealt with in the offices of the Director of Scheduling and Academic Records, Administration Building. The College adviser on Selective Service is the Dean of Undergraduate Studies, whose offices are also in the Administration Building.

GRADUATE ASSOCIATION

The West Chester State College Graduate Association, formed in 1968, concerns itself with the welfare of graduate students and provides avenues for communication among students, faculty, and administration. All graduate students are members of the Association, whose officers represent

the student body in various capacities and work in the interests of West Chester graduate students. The Association's monthly publication, the **Graduate Billboard,** gives voice to various concerns, disseminates timely information, and encourages participation in campus activities ranging from recreational opportunities to cultural events.

In its developing program, the Association sends representatives to Graduate Council meetings, considers curriculum needs, and provides orientation for new graduate students. Association headquarters are on the second floor of the Administration Building and may be visited by graduate students during regular College hours.

The expenses of the Association are met through the Intracollegiate Governmental Association, which is the all-campus organization of students.

Cultural Events

Students are urged to take advantage of the rich cultural opportunities at West Chester. Among these are the All-Star Series, the Chamber Music Series, the William Pyle Philips Lecture Foundation Series, the Campus Cinema Club, the Intracollegiate Governmental Association evening series of programs, Theatre 208, and the many recitals and concerts given by faculty and students of the School of Music. The Office of Cultural Affairs, in the Administration Building, will supply literature announcing the various scheduled events.

European Summer Tour

An annual European summer tour, which the Division of Social Sciences conducts, offers graduate students—in-service teachers particularly—an interesting opportunity for travel and study under pleasant and profitable circumstances. Open to both graduates and undergraduates, the tour includes seminars and lectures along its route and provides six hours of credit (see SSc 550 in Course Descriptions). Museums, galleries, cathedrals, operas, music festivals, and additional cultural events highlight the trip, which covers some ten countries. A faculty member from the Division of Social Sciences is always in charge. Further information may be sought from the Division.

Sports Activities

Opportunities for tennis, swimming, and other sports are available through the facilities of the School of Health and Physical Education. Inquiry may be made at the office of the Director of Athletics.

Academic Information and Regulations

Degree Candidacy

Summary of Degree Requirements

Class Attendance

Regular attendance at classes is considered essential to responsible graduate study. Absence from class does not exempt the student from course responsibilities. If, for valid reasons, an examination is missed, the student sees his professor at the earliest possible time to arrange for a make-up examination.

Attendance in Inclement Weather

The College convenes classes regardless of weather conditions, but students are not asked to take risks by driving on hazardous roads. If absent owing to dangerous driving conditions, students must assume responsibility for work missed.

Class Hours

Classes meet during late afternoons, evenings, and on Saturday mornings in the fall and spring semesters. The summer sessions are composed of: **Pre Session,** which meets in evening hours for three weeks in June; **Regular Session,** which meets in morning hours for six midsummer weeks; and **Post Session,** which is held for three weeks in August, with morning hours.

Student Responsibility

It is the responsibility of the student to know and observe all regulations and procedures relating to the program he is pursuing. In no case will a regulation be waived or an exception granted because a student pleads ignorance of the regulation or contends that he was not informed of it

by his adviser or other authority. A student planning to graduate should give careful attention to the dates relating to application for graduation and other pertinent deadlines. (See "Deadline Dates for Students Who Plan to Graduate in May" at end of this section.)

Student Load

The normal work load for the Summer Sessions is one semester hour of work for each week of enrollment. It is not possible to carry more than one course during the Pre or Post Session. Provided permission is secured in advance from the Dean of Graduate Studies, students may carry more than six semester hours of work in the Regular Session.

The normal work load for a full-time student during the fall and spring semesters is nine semester hours. With approval from the chairman or coordinator, the load may be increased.

Fully employed teachers may not register for more than six semester hours during a semester unless given permission by the Dean of Graduate Studies.

Grading System

The following grading system is employed:

Grade	Interpretation	Percentage Equivalents	Quality Points
A	Excellent	A = 90 - 100	4
B	Superior	B = 80 - 89	3
C	Average	C = 70 - 79	2
D	Below Average	D = 60 - 69	1
F	Failure	F = 59 or lower	0
I	Incomplete		
WF	Withdrew Failing	F = 59 or lower	0
WP	Withdrew Passing		
W	Withdrew		
Aud	Audit		

Removing Incompletes

Unless the Graduate Council grants an exception, courses given an Incomplete for valid reasons, such as unavoidable absence during final ex-

aminations, must be completed within the next 90 calendar days. This regulation does not apply to Methods and Materials of Research nor to the Thesis or Research Report.

Grade Reports

Official grade reports are issued soon after the end of a semester or summer session. Students are reminded to check their reports against grade requirements and other regulations and to have their reports at hand when consulting with advisers.

Cancellation of Courses

The College reserves the right at any time to cancel an announced offering of a course if registration does not justify continuance.

Changes in Name or Address

The Graduate Office and the Office of Records and Academic Information must be notified immediately of any change of address or change in name owing to marriage or court order.

Changes in Curriculum

In order to change from one program to another the student must:

1. Request the change in a letter to the Dean of Graduate Studies.
2. Request the chairman or coordinator of his present program to send a letter of release and the student's academic folder to the Graduate Office.
3. Request the chairman or coordinator of the program in which he seeks enrollment to send a letter of approval to the Graduate Office.

Transferring Credit from Other Institutions

West Chester students planning to take work at other institutions for transfer to West Chester must first obtain approval from their chairman or coordinator in order to determine that the institution is recognized for transfer and that the course or courses will be acceptable as transfer credit for the degree. For conditions under which transfer credit may be used for degree requirements, see "Applicants for Advanced Standing" in Admissions.

Withdrawal from Courses in Fall and Spring Semesters

Prior to the sixth meeting of any class, a student has the privilege of withdrawing from a course. He does so by:

1. Obtaining from the Graduate Office a withdrawal form.
2. Securing his professor's signature on the form.
3. Returning the signed form to the Graduate Office.

His record will show a W (Withdrawn) having no effect on his grade record.

After the first six meetings of a class, a withdrawal will not be approved by the Dean of Graduate Studies except for special reasons or emergencies. In this circumstance the grade record will show either a WP (Withdrawn Passing), with no effect on the record, or a WF (Withdrawn Failing), producing an F on the permanent record.

Students who drop a course without official permission—either before or after six class meetings—receive an F and are automatically dismissed from the Graduate Studies program. Students so dismissed may be readmitted only if the Graduate Council acts favorably on a written application addressed to the Council. For the refund policy on withdrawals, see Fees and Expenses.

Dismissal from the College

In instances of dismissal, the College reserves the right to refuse to give the reason for dismissal in writing.

Changing to Auditor Status

Before the sixth meeting of a class, a student may change his status in the class to **auditor.** He initiates this change by calling at the Graduate Office for a change-in-class-status form.

Time Limitation on Degree Programs

All degree requirements must be satisfied within six consecutive years from the date of admission, either as a degree or non-degree student. This limitation applies also to courses taken elsewhere and accepted at West Chester as transfer credit applying to degree requirements. (See "Applicants for Advanced Standing" in Admissions.)

In unusual cases, such as military service or prolonged illness, a

limited extension of time may be sought by written petition to the Graduate Council.

Students are reminded that all details concerning their research report or thesis must be completed within the six-year limitation.

Residence Requirement

The minimum residence requirement for the master's degree is either a fall or spring semester on full-time status or a Regular Summer Session in which two courses are completed.

Since all courses given in the Graduate Studies program are taught on campus, students should not expect to take off-campus or extension courses at West Chester.

Transfer of Credit

Not more than six semester hours of credit taken in residence at another accredited institution may be transferred to be applied to degree requirements at West Chester. For conditions under which credit may be transferred, see "Applicants for Advanced Standing" in Admissions.

Obtaining Transcripts

Upon written request, transcripts of work taken at West Chester may be obtained from the Office of Scheduling and Academic Records. A check or money order, made payable to the Commonwealth of Pennsylvania, must accompany the request, which should indicate the period of attendance at the College, the curriculum pursued, and any change of name during enrollment. The charge is $1 per each transcript.

Permanent Certification

The Permanent College Certificate requires three years of successful teaching in the public schools of the Commonwealth under the Provisional College Certificate and the satisfactory completion of a required number of semester hours of post-baccalaureate work of collegiate grade, determined as follows:

1. Twenty-four semester hours by those whose Provisional College Certificate was issued after October 1, 1963.
2. Twelve semester hours by those whose Provisional College Certificate was issued after October 1, 1959, but before October 1, 1963.

Courses taken to extend a College Provisional Certificate to include additional fields may be used to obtain the Permanent College Certificate.

Graduate Record Examination

Scores for the Graduate Record Examination are required for most of the degree programs, either at the time of application or at some point in the pre-candidacy or candidacy period. The nature of the G.R.E. requirement varies within the Schools and Divisions; the prospective degree student will therefore need to consult the program outline for his intended field of study. (See Programs and Degree Requirements.)

The Graduate Record Examination is administered by the Educational Testing Service, Box 955, Princeton, New Jersey 08540 and is composed of the Aptitude Test (morning test) and the Advanced Tests (afternoon tests in the fields of concentration). Application forms and data may be obtained either by writing directly to the Service or from the Graduate Office. The examinations may be taken at any of the testing centers designated by the Educational Testing Service. One of these is West Chester, where the Graduate Office periodically administers the Tests—generally in October, December, January, April, and July.

Application forms must be filed with the Educational Testing Service at least 15 days prior to the date of any examination.

Other Examinations

Examination requirements are determined by the Schools and Divisions. Students will need to consult the outline for their particular program under Programs and Degree Requirements and must also discuss all aspects of examination requirements with their chairman, coordinator, or adviser. It is incumbent upon the student to initiate such discussions.

Research Requirements for the M.Ed. Degree

The candidate for the M.Ed. degree at West Chester must satisfy the research requirement established by the Graduate Council. This requirement is that he must conduct an independent study related to his major field or specialization in the form of a Thesis or Research Report.

The study may be in the subject matter field or in professional education. A Thesis will carry three credits of graduate work in the 30-credit (Thesis) program. The Research Report will carry from one to two credits of graduate work applied to the 34-credit (Non-Thesis) program. (Consult the department chairman for individual department requirements.)

The decision to take the Thesis program or the Non-Thesis program is subject to the approval of the adviser, who will consider the question on the basis of the student's needs and ability.

The conduct of a research study results in professional growth usually not attainable through other forms of study. The completed Thesis or Research Report indicates the student's ability to identify a research topic and to pursue research in his field of specialization. An acceptable Research Report should show evidence that the student has:

1. Made a comprehensive study of the literature in his field of specialization.
2. Made an intensive and independent study of a problem.
3. Acquired a practical working knowledge of research procedures.
4. Demonstrated his ability to write with professional ability.
5. Reached justifiable conclusions from his research study.

Distinction Between a Research Report and the Thesis in the M.Ed. Program

The Research Report must be aimed at developing the student professionally in his major field. While the Thesis must have the same basic aim, it is much more extensive and hence more demanding of the student's time and abilities.

The Graduate Council has defined the Research Report and the Thesis as follows:

A Research Report is a written record of a scientific investigation to determine the facts of a condition; hence it is essentially a report on a problem. It demands of the researcher a knowledge of the techniques of research and scientific accuracy.

A Thesis is the written account of an exhaustive research to support or refute a belief or a hypothesis. It differs from the Research Report in that it is more comprehensive and more generally demanding of the writer's knowledge, skills, and general powers of scholarship.

The student who plans to work eventually toward a degree should make his decision early regarding the Research Report or Thesis. In no case should he defer the matter until a late moment in his course because the work involved in the Research Report or Thesis will undoubtedly extend over two or more semesters.

In thinking of the Research Report or Thesis, the student should take special note of the statements listed below. These statements represent official policy of the Graduate Council regarding the Research Report or Thesis.

1. The student should register his decision to do a Research Report or the Thesis at the completion of the course entitled Methods and Materials of Research. Thus the student's later selection of courses will be affected in part by his decision regarding this matter.

2. The department concerned must approve the subject of the Research Report or Thesis as a challenging, soundly executed professional task, worthy of master's level achievement.

3. A detailed outline of the Thesis must be approved by the Dean of Graduate Studies before the student is authorized to begin his investigation. This must be on file 30 days before final approval can be given.

4. When the Thesis or the Research Report has been approved by the Department, it must be typed and bound in accordance with specifications established by the Graduate Council. These specifications are on file in the offices of the department chairmen. **The Form and Style in Thesis Writing,** by Campbell, must be used as a format. The Thesis or Research Report should be submitted for binding to the Graduate Office. (Refer to Fees and Expenses.)

5. The student who submits a Thesis or a Research Report toward his degree must present three bound copies to the Office of Graduate Studies. These must be accompanied by three copies of the abstract (250-500 words). The original copy of each will be retained by the Graduate Office and the remaining copies will be given to the College library and the major department.

If the candidate wishes a bound copy for himself, he will need to order four copies.

Thesis Requirements for the M.S. and M.A. Degrees

See Programs and Degree Requirements for outlines of the several new programs leading to the M.S. and M.A. degrees, approval for which was received during the 1968-1969 academic year.

M.S. or M.A. degree candidates whose program includes the thesis should review the above paragraphs for general guidance.

Degree Candidacy

Requirements for Admission to Degree Candidacy

Application for degree candidacy must be made within the first 15 semester hours of the pre-candidacy period. Not more than six of these semester hours may be transfer credits.

During the pre-candidacy period, the student must:

1. Complete those courses which his department or program specifies as prerequisite to degree candidacy.

2. Perform satisfactorily on examinations which his department or program may require for admission to degree candidacy.
3. Achieve an overall grade average of at least 2.75 and an average of at least 3.00 in the concentration.
4. Show evidence of academic, personal, and professional qualities which satisfy both the administrators of the Graduate Program and the chairman or coordinator of his field.

Procedure for Application to Degree Candidacy

1. The student must file an application for admission to **degree candidacy** with the Dean of Graduate Studies on an official application form available in the Graduate Office.
2. When the application has been evaluated by the department or School concerned, the Dean of Graduate Studies will inform the applicant of his (1) unconditional acceptance, (2) conditional acceptance, or (3) rejection.
3. Upon notice of conditional or unconditional acceptance, the degree candidate must communicate with his chairman or coordinator in order to initiate the process of selecting his program of study.
4. At this point, the candidate must also submit a **written request** for the appointment of his adviser. He addresses this request to the chairman of his department or the coordinator of his program.

Approval for degree candidacy must be given by officials of both the academic discipline and by the Dean of Graduate Studies. (The College reserves the right to refuse admission to candidacy without giving reasons in writing.)

Reapplication for Degree Candidacy

Applicants who fail to qualify as degree candidates are classified as non-degree students. In order to reapply for degree candidacy they must attain an average of 3.00 in course work **specified by their department chairman or coordinator.**

Advisory System

The applicant for admission to graduate studies should consider the chairman of his department as his major adviser until such time as an adviser or an advisory committee is assigned to him. As soon as the applicant has declared his plans to the chairman of his major department, he will be assigned as the advisee of a professor in his major field. The student, aided by the adviser, will prepare a Program of Studies which outlines in detail the program he must complete in order to be eligible for the master's degree. Changes in the Program of Studies must be approved by the student's adviser. The initiative for seeking advisement and fulfilling degree requirements rests with the student. (See 4. under **"Procedure for Application to Degree Candidacy,"** above.)

Summary of Requirements for the Master's Degree

The master's degree will be granted upon:

1. Unrestricted admission to candidacy for the degree.
2. Submission and approval of the professional research thesis in the 30-credit program or satisfactory completion of the 34-credit program*.
3. Completion of all graduate courses with an overall quality-point average of 2.75, an average of B in the area of concentration, and achievement of satisfactory scores on the Graduate Record Examination. (See department requirements.)
4. Satisfactory performance on a final oral and/or written comprehensive examination conducted by the student's advisory committee in the field of specialization.
5. Evidence of successful teaching experience as approved by the chairman of the department in which the graduate student is enrolled. Other experience in lieu of this requirement must be approved by the Graduate Council*.
6. Meeting all required deadline dates. (Refer to **Deadline Dates for Students Planning to Graduate in May, 1970,** below.)

* Applies to the M.Ed. progroms only.

Deadline Dates for Students Planning to Graduate in May, 1970

January 27	Last day to submit final grades for fall semester to Graduate Office.
February 10	All class rolls for the spring semester due in Graduate Office.
March 1	Last day to file letter-of-intent-to-graduate. Due date for diploma fee.
April 1	Last day to obtain approval of graduation from department chairman. Last day to deliver chairman's approval of graduation to Graduate Office.
April 15	Last day to take final comprehensive examinations. Last day to submit Thesis or Research Report in final form to Graduate Office.
April 30	Last day to submit grades (passing or failing) on final comprehensive examinations to Graduate Office.
May 5	Last day for students to give Graduate Office assurance that they will receive grade of C or better for all course work taken in the final semester.

Programs and Degree Requirements

College of Arts and Sciences

Kenneth C. Slagle, *Dean*

Thomas J. Corr, *Assistant to the Dean*

Through programs given within its three Divisions, the College of Arts and Sciences offers the Master of Arts in biology, English, history, mathematics, French, German, Latin, and Spanish. Additionally, the College of Arts and Sciences has a program leading to the Master of Science in chemistry.

Degree programs leading to the Master of Education in a number of disciplines are also given in the College of Arts and Sciences in cooperation with the School of Education, which provides certain professional education requirements for the M.Ed. curricula.

All of these programs are fully outlined in the following pages under the headings of the Divisions in this order:

Division of Arts and Letters

Division of Sciences and Mathematics

Division of Social Sciences

Division of Arts and Letters

John W. Clokey, *Director*

Department of Art
Department of English
Department of Foreign Languages
Department of Philosophy
Department of Speech and Theatre

Degrees Offered:

Master of Education in

English
French
German
Latin
Spanish

Master of Arts in

English
French
German
Latin
Spanish

Art

Dr. Kuruna, Chairman

PROFESSORS

H. Theodore Hallman, B.F.A., B.S., M.F.A.
Daniel L. Kuruna, B.F.A., M.A., Ed.D.

ASSOCIATE PROFESSORS

Jack G. Hawthorne, B.A., M.Ed., M.F.A.
Robert D. McKinney, B.S., M.Ed.
Carolyn G. Simmendinger, B.S., M.F.A.

ART OFFERINGS

For Elementary Education Majors

Art 500 Art Education in the Elementary Schools

Open to All Curricula

Art 511 Sculpture
Art 512 Painting
Art 513 Ceramics

English

Mr. Clokey, Chairman

Dr. Thomas, Coordinator for Graduate Studies in English

PROFESSORS

Dorothy D. Bailey, B.A., M.A., Ph.D.
Thomas E. Berry, A.B., A.M., Ph.D.
Albert B. Halley, B.A., M.A., A.M., Ph.D.
John W. Clokey, B.S., Ed.M.
Leah E. Jordan, B.A., M.A., Ph.D.
Ammon G. Kershner Jr., B.A., A.M., M.S., Ph.D.
David E. McKenty, B.S., M.A., Ph.D.
Powell S. Thomas, B.A., A.M., Ph.D.
Theodora L. West, B.A., M.A., Ph.D.

ASSOCIATE PROFESSORS

William D. Fordyce, A.B., A.M., M.A.T., Ph.D.
William N. Garrett, A.B., Ph.D.
Alice B. Griffin, A.B., A.M., Ph.D.
J. Bernard Haviland, B.A., M.A., Ph.D.
Katharine D. Newman, B.S., M.A., Ph.D.
Willie E. Page, A.B., M.A.
Jane G. Smith, B.S., M.Ed., M.L.S.
S. Keith Taylor, B.A., M.A., Ed.D.

The Department of English presents two degree programs: the Master of Education with a major in English and the Master of Arts with a major in English. The M.Ed. program is designed to provide a sound basis in the realms of English and American literature and language, of professional education, and of general cultural enrichment. The M.A. program provides a sound basis for continued study leading toward a Ph.D. in English and/or American literature; depth of knowledge in British and American literature for teaching in secondary schools, community colleges, and junior colleges; and cultural enrichment for students of British and American literature.

Requirements for the Graduate Record Examination

The Graduate Record Examination is required for both degree programs. Degree candidates must submit satisfactory Graduate Record Examination scores in the verbal, quantitative, and Literature in English examinations* at or before the completion of six credits of graduate work.

* Aptitude Test—morning. Advanced Test (Literature in English)—afternoon.

MASTER OF EDUCATION IN ENGLISH
(30–34 Semester Hours)

In addition to meeting all general requirements for the master's degree at West Chester and the Graduate Record Examination requirements previously explained, the candidate for the M.Ed. must meet specific professional and departmental course requirements as follows:

		Semester Hours
I	**Required Courses**	**7**
	EdF 510 Educational Foundations	3
	Eng 500 Methods and Materials of Research	2
	Eng 501 Modern Techniques for the Teaching of English	2
	THESIS PROGRAM (30 s.h.)	
II	**Area of Concentration**	**18–20**
	A. Required courses in major field (see below)	
	B. Electives under advisement (see below)	
III	**Research**	**3–5**
	Thesis (Eng 610)	3
	Seminar (Eng 590)	0-2
	NON-THESIS PROGRAM (34 s.h.)	
II	**Area of Concentration**	**23–27**
	A. Required courses in major field (see below)	
	B. Electives under advisement (see below)	
III	**Research**	**0–4**
	Research Report (Eng 600)	0-2
	Seminar or supporting electives	0-2

Area of Concentration Requirements

Below are listed five groups of courses under A, B, C, D, and E. Every English major in the M.Ed. program must have a minimum of two courses from A, B, and C and a total of three courses from D and E. If he writes a thesis he must have a minimum, therefore, of nine courses from the five groups; if he does not write a thesis, thereby electing the 34-hour option, he must have a minimum of twelve courses from the five groups. In addition, he must be prepared to take any courses deemed necessary by his adviser.

Students are required to take a written comprehensive examination which is offered the second Wednesday of December, April, and July and includes both British and American literature. It must be passed with some distinction. If a student fails this examination twice, he must petition the Department of English for the opportunity of attempting it a third and final time.

COURSES FOR THE M.Ed. PROGRAM

Group A

Eng 502 History of the English Language
Eng 503 Old English Language and Literature
Eng 504 Linguistics for the Elementary School
Eng 505 Linguistics for the Secondary School

Group B

Lit 511 English Literary Criticism (1800 to Present)
Lit 512 American Literary Criticism (1800 to Present)
Lit 514 American Literary Movements
Lit 515 Comparative Literature — Romantic Movements
Lit 517 Literary Spokesmen for American Ideas
Lit 525 Biography

Group C

Lit 520 Nineteenth Century Novel
Lit 521 English Literature to Chaucer
Lit 522 Chaucer
Lit 523 Eighteenth Century Novel
Lit 524 British and Continental Short Story
Lit 526 Tudor Poetry and Prose
Lit 527 Stuart Literature to the Commonwealth
Lit 528 Milton
Lit 529 Victorian Prose
Lit 530 Victorian Poetry
Lit 533 Romantic Prose and Poetry
Lit 539 Eighteenth Century Poetry and Prose
Lit 542 Spenser

Group D

Lit 516 Major Twentieth Century American Poets
Lit 534 Twain and James
Lit 535 Twentieth Century American Writers
Lit 537 Emerson and Thoreau
Lit 538 Hawthorne and Melville

Group E

Lit 531 Shakespeare's Predecessors in Drama
Lit 536 Twentieth Century Drama
Lit 540 Restoration and Eighteenth Century Drama
Lit 543 Shakespeare's Comedies and Poems
Lit 544 Shakespeare's Tragedies and Histories
Lit 546 Shakespearean Literary Criticism

ENGLISH SERVICE COURSES

Hum 500 Humanities
Lit 541 Greek and Roman Literature in Translation
Lit 550 Literature for the Elementary School
Lit 551 Literature for the Secondary School
Eng 590 Seminar in English: topic to be announced

The student is advised to investigate offerings of the Department of Speech and Theatre for other relevant courses.

MASTER OF ARTS IN ENGLISH
(30 Semester Hours)

In addition to meeting the general requirements for the master's degree at West Chester, the candidate must meet the following departmental requirements:

1. He must score satisfactorily in the Graduate Record Examination, as previously explained, and satisfy departmental requirements for admission to the degree program.
2. He must pass with some distinction a written and/or oral comprehensive examination in British and American literature.
3. He must demonstrate ability to read one of the following modern languages: German, French, or Russian. In exceptional cases, under advisement, another foreign language may be substituted.
4. He is expected to complete a graduate course in British or American history corresponding to his period of particular interest.
5. He must pursue a prescribed pattern of courses.

The M.A. curriculum is arranged as follows:

		Semester Hours
I	**Area of Concentration**	**24**
	A. **Required**	
	Eng 500 Methods and Materials of Research	2
	Two courses each from Group 1, Group 2, Group 3, Group 4	16
	B. **Electives,** chosen under advisement, from Groups 1, 2, 3, 4	6
II	**Electives (English and/or related fields)**	**6**

COURSES FOR THE M.A. PROGRAM

Group 1

Eng	502	History of the English Language
Eng	503	Old English Language and Literature
Eng	511	English Literary Criticism
Lit	512	American Literary Criticism
Lit	521	English Literature to Chaucer
Lit	525	Biography

Group 2

Lit	520	Nineteenth Century Novel
Lit	522	Chaucer
Lit	523	Eighteenth Century Novel
Lit	524	British and Continental Poetry
Lit	526	Tudor Poetry and Prose
Lit	527	Stuart Literature
Lit	528	Milton
Lit	529	Victorian Prose
Lit	530	Victorian Poetry
Lit	533	Romantic Prose and Poetry
Lit	539	Eighteenth Century Poetry and Prose
Lit	542	Spenser

Group 3

Lit	515	Comparative Literature
Lit	516	Major 20th Century American Poets
Lit	517	Literary Spokesmen for American Ideas
Lit	534	Twain and James
Lit	535	Twentieth Century American Writers
Lit	537	Emerson and Thoreau
Lit	538	Hawthorne and Melville

Group 4

Lit	531	Shakespeare's Predecessors in Drama
Lit	536	Twentieth Century Drama
Lit	540	Restoration and Eighteenth Century Drama
Lit	543	Shakespeare's Comedies and Poems
Lit	544	Shakespeare's Tragedies and Histories
Lit	546	Shakespearean Literary Criticism

Foreign Languages

Dr. Roberts, Chairman

French

PROFESSOR
Alfred D. Roberts, B.A., M.A., Ph.D.

ASSOCIATE PROFESSOR
Madelyn Gutwirth, B.A., M.A., Ph.D.

ASSISTANT PROFESSORS
Robert Greene, A.B., A.M.
Marianne H. Kulaski, B.A., M.A.

German

PROFESSOR
Harry W. Pfund, A.B., A.M., Ph.D.
(Part-time)

ASSOCIATE PROFESSOR
Alla S. Kuhlmann, M.A.

ASSISTANT PROFESSORS
Ralph A. Eisenstadt, B.S., M.A.
Alois H. Kulhanek, B.S., M.A.
Richard A. Schneider, M.A.

Latin

PROFESSOR
Walter E. Frieman, Jr., B.S., S.T.B., S.T.M., Th.D.

Spanish

PROFESSOR
Philip D. Smith, Jr., B.A., M.A., Ph.D.

ASSOCIATE PROFESSORS
Jorge Escorcia, B.A., M.A.
Ronald P. Lombardi, B.S., M.A.
Benjamin Nunez, A.M., Ph.D.

ASSISTANT PROFESSOR
Julia Puerta, B.S., B.A., M.A.

The Department of Foreign Languages offers two degree programs, one leading to the Master of Education in French, Spanish, German, or Latin, and the other to the Master of Arts in those languages.

Requirements for the Graduate Record Examination

The Graduate Record Examination is required for both degree programs. Degree candidates must submit satisfactory scores in the morning and afternoon tests at or before the completion of six credits of graduate work.

MASTER OF EDUCATION IN FRENCH, SPANISH, GERMAN, OR LATIN
(30–34 Semester Hours)

The candidate for the M.Ed. program must meet the following requirements:

		Semester Hours
I	**Required Courses**	**7**
	EdF 510 Educational Foundations	3
	Lan 500 Methods and Materials of Research	2
	Lan 503 Techniques of Language Teaching	2

THESIS PROGRAM (30 s.h.)

II	**Area of Concentration**	**18–20**
	Selected from the groups below.	
III	**Research**	**3–5**
	Thesis (Lan 610) 3	
	Seminar 0-2	

NON-THESIS PROGRAM (34 s.h.)

II	**Area of Concentration**	**23–27**
	Selected from the groups below.	
III	**Research**	**0–4**
	Research Report (Lan 600) 0-2	
	Seminar 0-2	

MASTER OF ARTS IN FRENCH, SPANISH, GERMAN, OR LATIN

(30 Semester Hours)

The candidate for the M.A. degree with a major in French, Spanish, German, or Latin must meet the requirements shown below:

		Semester Hours
Area of Concentration with Thesis		**30**
A. **Required Area**	20	
Group A—Course 511 in the respective language	2	
Group B—under advisement	6	
Group C—under advisement	6	
Group D—under advisement	6	
(Latin majors choose 20 semester hours from Groups A and B. under advisement.)		
B. Thesis (Lan 610)	6	
C. Elective Area (in Area of Concentration)	4	
or		
Area of Concentration (Non-Thesis)		**30**
A. Required Area (see A. above)	20	
B. Elective Area (in Area of Concentration)	10	

The candidate for the M.A. degree must pass a reading examination in a second foreign language or must have taken and passed at least one graduate-level course in a second foreign language.

LANGUAGE (PROFESSIONAL EDUCATION)

Lan 501 Linguistics

Lan 502 FLES (Foreign Languages in the Elementary School)

Lan 504 The Language Laboratory

FRENCH

Group A

Lan 500A	Seminar in Methods and Materials of Research
Fre 511	Romance Philology (French)
Fre 512	Explication de Textes
Fre 513	Phonetics
Fre 514	Advanced Grammar and Stylistics
Fre 515	French Civilization

Group B

Fre 520	Rabelais
Fre 521	Moliere
Fre 522	Voltaire
Fre 523	Rousseau
Fre 524	Balzac
Fre 525	Proust

Group C

Fre 530	French Classical Tragedy
Fre 531	The French Novel (through the Nineteenth Century)
Fre 532	The Twentieth Century French Novel
Fre 533	French Lyric Poetry
Fre 534	The Contemporary French Theater

Group D

Fre 540	Medieval French Literature
Fre 541	French Literature of the Renaissance
Fre 542	Studies in the Seventeenth Century
Fre 543	Studies in the Eighteenth Century
Fre 544	Studies in the Nineteenth Century

GERMAN

Group A

Lan 500A	Seminar in Methods and Materials of Research
Ger 511	German Philology
Ger 513	Phonetics
Ger 514	Advanced Grammar and Stylistics
Ger 515	German Civilization

Group B

Ger 520	Goethe
Ger 521	Schiller
Ger 522	Rilke
Ger 523	George
Ger 524	Thomas Mann
Ger 525	Bertolt Brecht
Ger 526	Kafka

Group C

Ger 531	The Twentieth Century German Novel
Ger 532	The Novelle
Ger 533	German Lyric Poetry
Ger 534	German Drama of the Nineteenth Century
Ger 535	German Drama of the Twentieth Century

Group D

Ger 540	German Literature of the Middle Ages
Ger 541	Poetry of the Reformation and the Baroque Period
Ger 542	The Enlightenment and Storm and Stress
Ger 543	The German Romantics
Ger 544	Nineteenth Century German Realism
Ger 545	The German Expressionists

LATIN

Group A

Lan 500A	Seminar in Methods and Materials of Research
Lat 511	Comparative Grammar of Greek and Latin
Lat 512	History of the Latin Language
Lat 514	Advanced Latin Prose Composition and Translation

Group B

Lat 513	Italic Dialects
Lat 520	Works of Julius Caesar (Advanced Course)
Lat 521	Cicero's Philosophical Essays
Lat 525	Latin Metre and Verse
Lat 526	Greek and Latin Epic
Lat 527	Roman Historiography
Lat 528	Roman Satire
Lat 529	The Latin Novel
Lat 530	Medieval Latin Literature
Lat 531	Latin Epigraphy
Lat 532	Roman Archaeology
Lat 533	Historical Numismatics
Lat 534	Geography of Ancient Greece and Italy

SPANISH

Group A

Lan 500A	Seminar in Methods and Materials of Research
Spa 510	Advanced Spanish Phonetics
Spa 511	Romance Philology (Spanish)
Spa 512	Advanced Grammar and Stylistics
Spa 514	Spanish Civilization

Group B

Spa 520	Cervantes
Spa 521	Juan Ruiz, Arcipreste de Hita
Spa 522	Lope de Vega
Spa 523	Galdos
Spa 524	Valera
Spa 525	Unamuno

Group C

Spa 530	Spanish Comedia of the Golden Age
Spa 531	The Spanish Novel before Cervantes
Spa 532	The Picaresque Novel
Spa 533	The Generation of 1898
Spa 534	Spanish Lyric Poetry

Group D

Spa 540	Medieval Spanish Literature
Spa 541	The Renaissance in Spain
Spa 542	Spanish Romanticism
Spa 543	Contemporary Spanish Theater
Spa 544	Masterpieces and Movements in Spanish Literature
Spa 545	The Latin American Novel

Philosophy

Dr. Claghorn, Chairman

PROFESSOR
George S. Claghorn, B.A., Ph.D.

ASSOCIATE PROFESSORS
Thomas W. Platt, B.A., M.A., Ph.D.
Stanley Riukas, A.B., Ph.B., Th.B., Ph.L., Ph.D.
Frederick R. Struckmeyer, B.A., A.M., Ph.D.

ASSISTANT PROFESSORS
Paul A. Banyacski, B.A.
Salvador C. Kapunan, B.A., M.A., Ph.D.

PHILOSOPHY OFFERINGS

Phi 510 Existentialism
Phi 511 Philosophic Concepts
Phi 512 Contemporary Ethical Theories
Phi 513 Philosophy of Art
Phi 514 Philosophy of Religion
Phi 520 Philosophy of Mind
Phi 521 Philosophy of the Social Sciences
Phi 522 (also PhS 522) Philosophy of Science
Phi 523 Philosophy of Language
Phi 530 American Philosophy
Phi 531 Oriental Philosophy
Phi 535 Practical Logic
Phi 540 Plato Seminar
Phi 541 St. Thomas Aquinas Seminar
Phi 542 Kant Seminar

Speech and Theatre

Chaired by Intradepartmental Committee

PROFESSOR
Harold L. Hayes, B.F.A., M.F.A., Ph.D.

ASSOCIATE PROFESSORS
William F. Cope, B.F.A., M.A.
Rita V. Griffith, B.A., A.M., Ph.D.
Frank E. Peterson, B.S., M.A.
Vincent V. Suppan, B.S., M.A.

SPEECH AND THEATRE OFFERINGS

Sph 543 Advanced Problems in Public Speaking
SpP 544 Survey of Speech Disorders
ThA 536 Producing the Television Program (Nondramatic)
ThA 537 Television Program Directing (Dramatic)

Divison of Sciences and Mathematics

Albert E. Filano, *Director*

Department of Biology
Department of Chemistry
Department of Mathematics
Department of Physics

Degrees Offered:

Master of Education in
- Biology
- Chemistry
- Mathematics
- Physical Science
- Physics

Master of Arts in
- Biology
- Mathematics

Master of Science in
- Chemistry

Biology

Mr. McDonnell, Interim Chairman
Dr. Dorchester, Coordinator for Graduate Studies

PROFESSORS

Carmela L. Cinquina, B.S., M.S., Ph.D.
John E. C. Dorchester, B.A., M.A., Ph.D.
William R. Overlease, B.S., B.S.F., M.S., Ph.D.
Willard J. Trezise, B.S., M.S., Ph.D.

ASSOCIATE PROFESSORS

Robert W. Bernhardt, B.S., M.S.
Leona W. Brownell, B.A., M.S., Ph.D.
Margaret G. Cullen, B.S., M.A.
James M. McDonnell, A.B., M.A.
Margaret Y. Martinez, A.B., M.A.
William C. Skillen, B.S., M.S.

ASSISTANT PROFESSOR

Harry G. Jones, B.S., M.S.

The Department of Biology offers two degree programs, one leading to the Master of Education in biology and the other to the Master of Arts in biology.

Admission to the Programs

Applicants for either program must meet the general requirements for admission to degree study at West Chester and, in addition, the following departmental requirements:

1. Scores for the Graduate Record Examination must accompany applications.
2. The names of three references must also accompany applications.

Admission to the M.Ed. Program

Applicants must present a minimum of two semesters of general college chemistry, one semester of organic chemistry, and at least 18 semester hours of biological science.

Admission to the M.A. Program

Applicants must present a minimum of 24 semester hours of biological science, two semesters each of inorganic and organic chemistry, two semesters of physics, and mathematics up to and including calculus.

MASTER OF EDUCATION IN BIOLOGY
(30–34 Semester Hours)

		Semester Hours	
I	**Required Courses**		**7**
	EdF 510 Educational Foundations	3	
	Sci 500 Methods and Materials of Research	2	
	Bio 503 Modern Techniques of Teaching Biology	2	
	THESIS PROGRAM (30 s.h.)		
II	**Area of Concentration**		**18–20**
III	**Research**		**3–5**
	Bio 610 Thesis	3	
	Bio 599 Seminar	0-2	
	NON-THESIS PROGRAM (34 s.h.)		
II	**Area of Concentration**		**23–27**
III	**Research**		**0–4**
	Bio 600 Research Report	0-2	
	Bio 599 Seminar	0-2	

MASTER OF ARTS IN BIOLOGY
(30 Semester Hours)

I **Area of Concentration** **18**

Approved courses in biology, under advisement, from offerings shown below.

II Thesis (Bio 610) 6

The thesis should be based on independent laboratory or field observations and should constitute a contribution to existing knowledge in the field. Although publication is not a requirement, the thesis should be in a format acceptable to any standard journal in the field. The candidate will be expected to defend his thesis in an oral examination.

III Electives 6

The student may elect to take all his graduate courses in the field of biology or he may, under advisement, elect 6 credits in related science areas.

Foreign Language Requirement

The candidate for the M.A. must demonstrate a reading proficiency in either technical German, Russian, or French. In exceptional circumstances another foreign language may be substituted.

COURSE OFFERINGS IN BIOLOGY

Bio 511 Systematic Botany
Bio 512 Plant Growth and Development
Bio 513 Limnology
Bio 514 Plant Pests and Diseases
Bio 516 Physiology of Plants
Bio 517 Advanced Plant Anatomy and Morphology
Bio 524 Experimental Biology
Bio 526 Biochemistry I
Bio 527 Biochemistry II
Bio 528 Comparative Physiology and Biochemistry
Bio 530 Genetic Theory
Bio 532 Experimental Genetics
Bio 534 Advanced Embryology
Bio 538 Systematic Zoology
Bio 539 Insect Morphology
Bio 540 Applied Ecology
Bio 541 Economic Entomology
Bio 542 Animal Ecology
Bio 543 Freshwater Invertebrates
Bio 545 Developmental Anatomy
Bio 546 Microtechnique I
Bio 547 Microtechnique II
Bio 550 Human Ecology
Bio 561 Human Heredity
Bio 571 Advanced Bacteriology
Bio 573 Animal Histology
Bio 575 Morphology of Fungi
Bio 576 Physiology of Fungi
Bio 591 History of Biology

COURSES IN BIOLOGY FOR M.Ed. PROGRAM ONLY

Bio 501 Introductory Biochemistry for Teachers
Bio 503 Modern Techniques of Teaching Biology
Bio 522 Ecology for Teachers
Bio 525 Experimental Physiology for Teachers

SERVICE COURSES FOR ELEMENTARY EDUCATION MAJORS

Bio 510 Field Ecology and Natural History
Bio 596 Independent Study in Biological Science for Elementary Teachers

Chemistry

Dr. Reynolds, Acting Chairman

PROFESSORS

Justo B. Bravo, B.S., Ph.D.
Seymour S. Greenberg, B.S., A.M., Ph.D.
Francis J. Reynolds, B.S., Ph.D.

ASSOCIATE PROFESSORS

Eleanor W. Ashkenaz, B.S., Ph.D.
Marc L. Durand, B.S., Ph.D.
Robert W. Medeiros, B.S., M.S., Ph.D.
Michael R. Rachinsky, B.S., Ph.D.
Philip B. Rudnick, B.A., B.A., Ph.D.
Ardis M. Williams, A.B., A.M.

The Department of Chemistry offers the Master of Education and the Master of Science in Chemistry.

M.Ed. Program

Admission Requirements

In addition to meeting the general requirements for admission to a degree program at West Chester, applicants must present an undergraduate background including mathematics through calculus and 24 semester hours of undergraduate chemistry.

At the discretion of the department chairman, Graduate Record Examination scores may be required for evaluation and guidance.

Degree Requirements

1. Successful completion of the program outlined below.
2. Successful performance on a comprehensive oral examination given upon completion of the program.

M.S. Program

Admission Requirements

In addition to meeting the general requirements for a degree program at West Chester, applicants must present an undergraduate background including mathematics through calculus, one semester of analytical chemistry, and full-year courses in organic chemistry and physical chemistry.

Applicants whose undergraduate preparation does not meet these requirements may be admitted to the program but must make up any deficiencies before admission to degree candidacy.

Degree Requirements

1. Successful completion of the program outlined below.
2. A reading proficiency in any one of the following modern languages: German, French, or Russian. The reading test is administered by the Department of Foreign Languages.
3. Successful performance on an oral examination based on the area of research represented by the thesis.

4. At the discretion of the department chairman, Graduate Record Examination scores may be required for purposes of evaluation and guidance.

MASTER OF EDUCATION IN CHEMISTRY
(30–34 Semester Hours)

			Semester Hours	
I	**Required Courses**			**7**
	EdF 510	Educational Foundations	3	
	Sci 500	Methods and Materials of Research	2	
	Che 502	Modern Trends in Teaching Chemistry	2	
	THESIS PROGRAM (30 s.h.)			
II	**Area of Concentration**			**18–20**
	A. Required Courses		12	
	Che 511	Advanced Inorganic Chemistry 3		
	Che 521	Advanced Analytical Chemistry 3		
	Che 531	Organic Reaction Mechanisms 3		
	Che 541	Selected Topics in Physical Chemistry 3		
		[Those who have completed an undergraduate course in physical chemistry take Che 540 in place of Che 541]		
	B. Electives (under advisement)		6-8	
III	**Research**			**3–5**
	A. Thesis (Che 610)		3	
	B. Seminar (Che 591)		0-2	
	NON-THESIS PROGRAM (34 s.h.)			
II	**Area of Concentration**			**23–27**
	A. Required Courses (see A. above)		12	
	B. Electives (under advisement)		11-15	
III	**Research**			**0–4**
	Che 581	Research Report	0-2	
	Che 591	Seminar	0-2	

MASTER OF SCIENCE IN CHEMISTRY
(30 Semester Hours)

			Semester Hours	
I	**Area of Concentration**			**12**
	Required Area			
	Che 511	Advanced Inorganic Chemistry	3	
	Che 521	Advanced Analytical Chemistry	3	
	Che 531	Organic Reaction Mechanisms	3	
	Che 540	Advanced Physical Chemistry	3	
II	**Thesis**			**6**
	Che 610	Research and Thesis	6	
III	**Elective Area**			**12**
	Selected under advisement.			
	Courses in chemistry		9	
	Electives from other areas		3	

ELECTIVES IN CHEMISTRY

Che 501 History and Philosophy of Chemistry
Che 503 Chemical Literature
Che 513 Principles of Geochemistry
Che 515 Inorganic Preparations
Che 522 Instrumental Methods of Analysis
Che 532 Synthetic Organic Chemistry
Che 534 Chemistry of Heterocyclic Compounds
Che 535 Qualitative Organic Analysis
Che 540 Advanced Physical Chemistry
[In the M.S. program, Che 540 is a required course]
Che 545 Chemical Thermodynamics
Che 551 Chemistry of Coordination Compounds
Che 561 Nuclear and Radiochemistry
Che 563 Electrochemistry
Che 571 Polymer Chemistry
Che 573 Biochemistry of Proteins and Nucleic Acids
Che 574 Biochemistry of Carbohydrates and Lipids

Mathematics

Dr. Filano, Chairman

PROFESSORS
Albert E. Filano, B.S., M.S., Ph.D.
Michael Montemuro, B.A., M.A., Ed.D.

ASSOCIATE PROFESSORS
Hugh C. Bell, B.S., M.A.T.
Richard G. Branton, B.S., M.S.
Donald Fridshal, B.E.E., M.S., Ph.D.
Eli M. Mandelbaum, B.A., M.A.
John B. Manning, B.A., M.A., M.A., Ph.D.
Frank E. Milliman, B.N.S., A.B., A.M.
Joseph G. Moser, B.S., M.S.
C. Ralph Verno, B.A., B.D., M.S. in Ed.
Sol Weiss, B.S., M.A.

ASSISTANT PROFESSORS
Thomas J. Ahlborn, B.S., M.A.
Wesley E. Fasnacht, B.S., M.S.
Mark F. Wiener, B.S., A.M.

The Department of Mathematics offers the Master of Education and the Master of Arts in mathematics. Both degrees strengthen the preparation for teaching in secondary schools and colleges. The Master of Arts provides a foundation for continued study leading to the Ph.D. in mathematics and prepares graduates to serve as mathematicians for industrial concerns and governmental agencies.

Admission Requirements for the M.Ed. Program

In addition to meeting the basic requirements for admission to a degree program at West Chester, the applicant must present an undergraduate background including at least 24 semester hours in mathematics. This must include a full treatment of

calculus and at least one post-calculus course in the area of algebra, geometry, or analysis. He must also submit satisfactory scores for the Graduate Record Examination.

Admission Requirements for the M.A. Program

In addition to meeting the basic requirements for admission to a degree program at West Chester, the applicant must present evidence of an undergraduate program substantially equivalent to that required for the B.A. degree with a major in mathematics at West Chester State College. He must also submit satisfactory scores for the Graduate Record Examination.

MASTER OF EDUCATION IN MATHEMATICS
(30-34 Semester Hours)

		Semester Hours
I	**Required Courses**	**7**
	EdF 510 Educational Foundations	3
	Mat 500 Methods and Materials of Research in Mathematics Education	2
	One course chosen from the following	2
	Mat 550 Modern Techniques of Teaching Secondary School Mathematics	
	Mat 551 Secondary School Mathematics for the Low Achiever	
	Mat 552 Materials for Teaching Secondary School Mathematics	
	THESIS PROGRAM (30 s.h.)	
II	**Area of Concentration**	**20**
	Must include courses in the major areas of algebra, analysis, statistics, and geometry or topology. Chosen under advisement from the list of course offerings for degree programs in mathematics.	
III	**Research**	**3**
	Mat 610 Thesis	3
	NON-THESIS PROGRAM (34 s.h.)	
II	**Area of Concentration**	**25–27**
	Must include courses in the major areas of algebra, analysis, statistics, and geometry or topology. Chosen under advisement from the list of course offerings for degree programs in mathematics.	
III	**Research**	**0–2**
	Mat 600 Research Report	0-2

MASTER OF ARTS IN MATHEMATICS
(30 Semester Hours)

I	**Required Courses**	**21**
	Mat 515 Algebra I	3
	Mat 516 Algebra II	3
	Mat 535 Point Set Topology	3
	Mat 536 Algebraic Topology	3
	Mat 545 Real Analysis I	3
	Mat 546 Real Analysis II	3
	Mat 565 Complex Variables I	3
II	**Elective Area**	**9**
	A. Thesis Option	
	Mat 610 Thesis	6
	Elective (chosen under advisement from the list of course offerings for degree programs in mathematics)	3
	or	
	B. Non-Thesis Option	
	Mat 590 Seminar in Mathematics	3
	Electives (chosen under advisement from the list of course offerings for degree programs in mathematics)	6

COURSE OFFERINGS FOR DEGREE PROGRAMS IN MATHEMATICS

Mat 500 Methods and Materials of Research in Mathematics Education*
Mat 503 History of Mathematics*
Mat 505 Theory of Sets*
Mat 512 Modern Algebra*
Mat 513 Linear Algebra*
Mat 514 Theory of Numbers
Mat 515 Algebra I
Mat 516 Algebra II
Mat 517 Advanced Topics in Algebra
Mat 523 Mathematical Statistics I*
Mat 524 Mathematical Statistics II*
Mat 525 Probability and Statistics
Mat 532 Modern Geometry*
Mat 533 Projective Geometry
Mat 534 Differential Geometry
Mat 535 Point Set Topology
Mat 536 Algebraic Topology
Mat 541 Advanced Calculus I*
Mat 542 Advanced Calculus II*
Mat 543 Topics in Differential Equations
Mat 545 Real Analysis I
Mat 546 Real Analysis II
Mat 547 Advanced Topics in Analysis
Mat 550 Modern Techniques of Teaching Secondary School Mathematics*
Mat 551 Secondary School Mathematics for the Low Achiever*
Mat 552 Materials for Teaching Secondary School Mathematics*
Mat 565 Complex Variables I
Mat 566 Complex Variables II
Mat 571 Operations Research and Applied Mathematics
Mat 590 Seminar in Mathematics
CSc 510 Computer Programming and Numerical Analysis*

*Acceptable for degree credit in M.Ed. program only.

SERVICE COURSES IN MATHEMATICS

Mat 501 Fundamental Concepts of Mathematics I
Mat 502 Fundamental Concepts of Mathematics II
Mat 506 Fundamentals of Mathematics for Physics
Mat 511 Foundations of Algebra
Mat 521 Educational Statistics
Mat 522 Advanced Educational Statistics
Mat 530 Geometry for the Elementary Grades
Mat 531 Foundations of Geometry
Mat 555 Modern Techniques of Teaching Elementary School Mathematics
Mat 556 Development of the Mathematics Curriculum in the Elementary Grades
CSc 501 Introduction to Computer Programming

Physical Science

Dr. Greenberg, Coordinator

A program leading to the Master of Education in physical science is offered by the faculties of the Division of Sciences and Mathematics. The candidate successfully completing the program will have a thorough understanding of the science subject matter, curriculum, and procedures of junior high schools and, in addition, is expected to have a good mastery of one of the disciplines in science.

Admission to the Program

In addition to meeting the general requirements for admission to a degree program at West Chester, applicants must present an undergraduate background which includes one year of general college chemistry, one year of general college physics, and the ability to use the calculus in courses in college physics.

Graduate Record Examination

Applicants are required to take the Graduate Record Examination or an examination prepared and administered by the faculty of the Division.

MASTER OF EDUCATION IN PHYSICAL SCIENCE
Non-Thesis Program Only
(34 Semester Hours)

		Semester Hours
I	**Required Courses**	7
	EdF 510 Educational Foundations	3
	Sci 500 Methods and Materials of Research	2
	PhS 502 Modern Trends in Teaching Physical Science	2

II Area of Concentration — 26–27

A. **Requirements** 9

One course must be taken from each group unless the candidate is exempt from one or more by virtue of previous preparation and experience.

Group I Chemistry

Che 502	Modern Trends in Teaching Chemistry	2
Che 521	Advanced Analytical Chemistry	3
Che 541	Selected Topics in Physical Chemistry	3

Group II Earth and Space Science

PhS 501	Historical Geology	3
PhS 503	Principles of Physical Geology	3
PhS 520	Earth Science for Secondary School Teachers	3
PhS 521	Mineralogy for the Science Teacher	3
PhS 532	Space Science	3
PhS 560	Workshop in Rocks and Minerals	3
PhS 562	General Geological Field Studies in Southeastern Pennsylvania	3

Group III Physics

PhS 504	Foundations of Physics	3
PhS 505	Modern Concepts in Physics	3
PhS 510	Electronics for Teachers	3
PhS 511	Electricity for Teachers	3
PhS 512	Mechanics for Teachers	3
PhS 513	Modern Physics for Teachers	3
PhS 524	Experimental Physics	1-3

B. Electives, chosen from chemistry, physics, and physical science 17-18

III Research — 0–1

PhS 506 Seminar in Physical Science 0-1

ADDITIONAL OFFERINGS IN PHYSICAL SCIENCE

PhS 507 Recent Advances in Physical Science
PhS 508 Nuclear Physics for Teachers
PhS 522 Philosophy of Science (also Phi 522)
PhS 590 History of the Physical Sciences

For Elementary Education Teachers

Sci 520 New Trends in Elementary School Science Curriculum
PhS 570 Chemistry for the Elementary Teacher
PhS 571 Astronomy for the Elementary Teacher
PhS 595 Elementary School Science Instruction

Physics

Dr. Rickert, Chairman

PROFESSOR
Russell K. Rickert, B.S., M.S., Ed.D.

ASSOCIATE PROFESSORS
Louis A. Casciato, B.S., M.S.
Robert W. Hawkes, B.S., M.S.
Brent Kaplan, B.M.E., M.M.E.
George F. Reed, B.S., M.S.
Mary L. Shoaf, B.A., M.S., Ph.D.
Paul R. Widick, B.A., M.Ed., M.S.

ASSISTANT PROFESSORS
Frank D. Helker, B.S., M.Ed.
Harold L. Skelton, B.S., M.S.
Frank A. Smith, B.S., M.A.

The Department of Physics offers a program leading to the Master of Education in physics. The candidate who successfully completes the program will have a level of competence in physics which will enable him to teach the material with confidence at the high-school and junior-college level.

Admission to the Program

In addition to meeting the general requirements for admission to a degree program at West Chester, applicants must present an undergraduate background including mathematics through calculus (the equivalent of Mat 242 in the West Chester Undergraduate Studies catalogue) and 24 semester hours of undergraduate physics.

At the discretion of the chairman of the department, a proficiency examination may be required of applicants.

Graduate Record Examination

All candidates are required to take the Graduate Record Examination during their last semester before graduation.

MASTER OF EDUCATION IN PHYSICS
Non-Thesis Program Only
(34 Semester Hours)

		Semester Hours
I	**Required Courses**	**7–9**
	Hum 500 Humanities*	2
	EdF 510 Educational Foundations	3
	Sci 500 Methods and Materials of Research	2
	Phy 505 Modern Trends in Teaching Physics	2

* May be waived with permission of the department chairman.

II	**Area of Concentration**		**21–27**
	A. **Required Courses in Major Field**	12	
	Mat 506 Fundamentals of Mathematics for Physics	3	
	[Phy 515 may be substituted for Mat 506 at the department chairman's discretion.]		
	Phy 502 Principles of Physics I	3	
	Phy 503 Principles of Physics II	3	
	Phy 504 Physics Laboratory	3	
	B. **Electives,** under advisement, from the list below	9-15	
	Supporting electives may also be taken in chemistry, mathematics, and physical science, as advised.		
III	**Research**		**0–4**
	A. Phy 591 Seminar	0-2	
	B. Phy 600 Research	0-2	

ELECTIVES IN PHYSICS

Phy 513 Analytical Dynamics
Phy 514 Heat and Thermodynamics
Phy 515 Mathematical Physics I
Phy 516 Mathematical Physics II
Phy 523 Electronics
Phy 530 General Astronomy
Phy 532 Nuclear Physics
Phy 533 Nuclear Physics Laboratory
Phy 541 Special Topics in Physics

Division of Social Sciences

Byron Y. Fleck, *Director*

Donn C. Riley, *Graduate Coordinator for Social Sciences*

Department of Economics and Business
Department of Geography
Department of History
Department of Political Science
Department of Psychology
Department of Sociology and Anthropology

Degrees Offered:

Master of Education in Geography
Master of Education in Social Science
Master of Arts in History

Economics and Business

Dr. Thorson, Chairman

PROFESSORS

Eugene W. Schooler, B.S., M.B.A., Ph.D.
Joseph M. Thorson, L.L.M., M.A., Ph.D.

ASSOCIATE PROFESSOR

Patrick J. Sylvester, Jr., B.A., M.A., M.A.

ECONOMICS OFFERINGS

Eco 530 Economics and Public Policy
Eco 531 Comparative Economic Systems
Eco 532 History of Economic Thought
Eco 533 Teaching Economics in Secondary Schools
Eco 550 Seminar in Economics

Geography

Dr. Keinard, Chairman
Dr. Langdon, Coordinator for Graduate Program in Geography

PROFESSORS
Alvin S. Keinard, B.A., M.Ed., Ed.D.
George Langdon, B.S., M.S., Ph.D.

ASSOCIATE PROFESSORS
Floyd R. Bielski, B.S., M.A.
Charles W. Grassel, B.S., M.S.
Arthur S. Hawthorne, B.S. M.A.
William J. Rampon, B.A., M.A.
Andrew R. Thompson, B.S., M.Ed.

The Department of Geography offers the Master of Education with a major in geography. Degree candidates must meet the general requirements for the master's degree at West Chester (see Degree Requirements). The curriculum for the M.Ed. program follows.

Graduate Record Examination Requirement
The Department of Geography requires the Graduate Record Examination for admissions and diagnostic purposes.

MASTER OF EDUCATION IN GEOGRAPHY
(30–34 Semester Hours)

		Semester Hours	
I	**Required Courses**		**8**
	EdF 510 Educational Foundations	3	
	Geo 500 Methods and Materials of Geographic Research	2	
	Geo 584 Modern Techniques of Teaching Geography	3	
	THESIS PROGRAM (30 s.h.)		
II	**Area of Concentration**		**17–19**
	A minimum of two courses each chosen from Groups 1, 2, 3		
III	**Research**		**3–5**
	Thesis (Geo 610)	3	
	Seminar	0-2	
	NON-THESIS PROGRAM (34 s.h.)		
II	**Area of Concentration**		**22–26**
	A minimum of two courses each from Groups 1, 2, 3, and electives, under advisement		
III	**Research**		**0–4**
	Research Report (Geo 600)	0-2	
	Seminar	0-2	

Group 1. Earth Studies

Geo 501 Advanced Geomorphology
Geo 502 Regional Physiography of North America
Geo 503 General Climatology
Geo 504 Regional Climatology of the Continents
Geo 505 Advanced Cartography
Geo 506 Advanced Physical Geography
Geo 507 Advanced Map Interpretation

Group 2. Economic and Political Studies

Geo 520 Problems of Economic Geography
Geo 521 World Economic Patterns
Geo 522 Agricultural Geography
Geo 523 Advanced Conservation of Natural Resources
Course I. Conservation of U. S. Resources
Course II. Problems and Research in Resource Management
Geo 524 Geography of Population
Geo 525 Geography of Regional Planning
Geo 526 Urban Geography
Geo 527 Political and Global Concepts in Geography
Geo 529 Geographic Influences in World History

Group 3. Regional Studies

Geo 540 Geography of the United States
Geo 541 Geography of the United States in its World Relations
Geo 542 Geography of Canada
Geo 543 Geography of Mexico and Middle America
Geo 544 Geography of South America
Geo 545 Geography of Europe (Excluding the U.S.S.R.)
Geo 546 Geography of the Soviet Union
Geo 547 Geography of Asia (Excluding the U.S.S.R.)
Geo 549 Geography of Africa

Group 4. Special Studies in Geography

Geo 580 Seminar in Geography in Education
Geo 581 Seminar in Modern Philosophy of Geography
Geo 582 Seminar in Geographical Writing and Literature
Geo 585 Geography Field Methods
Geo 586 Area Field Studies (Courses I, II and III)
Geo 587 Geography Workshop for Teachers

SERVICE COURSES IN GEOGRAPHY

Geo 521 World Economic Patterns
Geo 523 Advanced Conservation of Natural Resources
Geo 527 Political and Global Concepts in Geography
Geo 529 Geographic Influences in World History
Geo 540 Geography of the United States
Geo 541 Geography of the United States in its World Relations
Geo 542 Geography of Canada
Geo 543 Geography of Mexico and Middle America
Geo 544 Geography of South America
Geo 545 Geography of Europe (excluding the U.S.S.R.)
Geo 546 Geography of the Soviet Union
Geo 547 Geography of Asia excluding the U.S.S.R.)
Geo 549 Geography of Africa
Geo 587 Geography Workshop for Teachers

History—Social Science

Dr. Carlson, Chairman, Department of History

Dr. Riley, Graduate Coordinator for Social Sciences

PROFESSORS

Robert E. Carlson, B.A., M.A., Ph.D.
Edward G. Everett, B.S., M.A., Ph.D.
Byron Y. Fleck, B.A., M.A., Ph.D.
Harry G. Schalck, A.B., M.A., Ph.D.
Jane B. Swan, B.A., M.A., Ph.D.
John J. Turner, Jr., A.B., M.A., Ph.D.

ASSOCIATE PROFESSORS

F. J. Crowley, B.A., M.A., Ph.D.
Claude R. Foster, Jr., B.A., M.A., Ph.D.
Frank Fox, B.S., M.A., Ph.D.
Patricia C. Johnson, B.A., Ph.D.
M. L. Michael Kay, B.A., Ph.D.
Donn C. Riley, A.B., M.A., Ph.D.
Harold E. Shaffer, A.B., Litt.M.
Norbert C. Soldon, B.A., M.A.
Charles H. Stuart, B.A., M.A.
Robert J. Young, B.S., M.A.

The Department of History offers two programs of study, one leading to the Master of Education with a major in social science and the other to the Master of Arts in history.

Graduate Record Examination Requirement

The Department of History requires the Graduate Record Examination for admissions and diagnostic purposes for both programs.

MASTER OF EDUCATION IN SOCIAL SCIENCE
(30–34 Semester Hours)

The candidate for the M.Ed. degree in social science must meet the requirements stated below.

		Semester Hours	
I	**Required Courses**		5
	SSc 500 Methods and Materials of Research in the Social Sciences	2	
	EdF 510 Educational Foundations	3	
	THESIS PROGRAM (30 s.h.)		
II	**Area of Concentration**		20–22
	A. Required Courses		
	Group 1: American History	6	
	Group 2: European History	6	
	Group 3: Social Sciences		
	A. Anthropology and Sociology	2	
	B. Economics	2	
	C. Political Science	2	
	D. Psychology	2	
III	**Research**		3–5
	Thesis (SSc 610)	3	
	Seminar or Supporting Elective as advised	0-2	
	NON-THESIS PROGRAM (34 s.h.)		
II	**Area of Concentration**		25–27
	A. **Required Courses**		
	Group 1: American History	6	
	Group 2: European History	6	
	Group 3: Social Sciences		
	A. Anthropology and Sociology	2	
	B. Economics	2	
	C. Political Science	2	
	D. Psychology	2	
	B. **Electives,** as advised	5-7	
III	**Research**		2–4
	Research Report (SSc 600)	2	
	Seminar or Supporting Elective as advised	0-2	

Group 1. American History

His 508 Colonial America: 1607-1763
His 509 Revolutionary America: 1763-1789
His 511 The Rise of the New Nation: 1789-1850
His 512 Civil War and Reconstruction· 1850-1876
His 513 Emergence of Modern America: 1876-1919
His 514 United States as a World Power: 1919-present
His 515 Problems in American Constitutional Development
His 516 Recent American Diplomatic History
His 550A Seminar in American History

Group 2. European History

His 530 Problems in Medieval Civilization
His 531 The Renaissance
His 532 The Protestant Revolution
His 533 Dynastic Europe: 1648-1789
His 534 The French Revolution and the Napoleonic Era: 1789-1815
His 535 Nationalism and Democracy: 1815-1914
His 536 Europe Since 1914
His 540 The Evolution of Modern Russia
His 541 Tudor and Stuart England
His 550B Seminar in European History

Group 3. Social Sciences

A. **Anthropology and Sociology**
Ant 530 Problems in Anthropology
Ant 550 Seminar in Anthropology
Soc 531 Social Pathology
Soc 532 Historical Sociology
Soc 533 Intergroup Relations
Soc 550 Seminar in Sociology

B. **Economics**
Eco 530 Economics and Public Policy
Eco 531 Comparative Economic Systems
Eco 532 History of Economic Thought
Eco 550 Seminar in Economics

C. **Political Science**
PSc 531 Modern Political Theory
PSc 532 Seminar in International Relations
PSc 533 The American Legislative Process
PSc 540 Democracy and Totalitarianism
PSc 550 Seminar in Political Science

D. **Psychology**
Psy 501 Introductory Statistics for the Behavioral Sciences
Psy 552 Seminar in Human Development and Behavior: Adolescence
Psy 554 Seminar: Adolescent Case Studies
Psy 557 Psychology of Adjustment
Psy 562 Psychology of Personality
Psy 563 Mental Hygiene

Group 4: Special Studies

Eco 533 Teaching Economics in Secondary Schools
His 523 Contemporary World Affairs
His 524 Studies in the History and Culture of South Asia
His 525 Studies in the History and Culture of East Asia
His 526 Workshop in World Cultures
His 527 Studies in the History and Culture of Emerging Africa
SSc 500 Methods and Materials of Research in the Social Sciences
SSc 502 Methods and Materials for Teaching Social Studies
SSc 550 Seminar in Contemporary European Culture (Student European Tour)
SSc 600 Research Report
SSc 610 Thesis

SERVICE COURSES IN SOCIAL SCIENCES

SSc 550 Seminar in Contemporary European Culture (Student European Tour)
His 526 Workshop in World Cultures
Ant 530 Problems in Anthropology
Eco 530 Economics and Public Policy
PSc 533 The American Legislative Process
Soc 531 Social Pathology

For students who have had His 211:

His 508 Colonial America: 1607-1763
His 509 Revolutionary America: 1763-1789
His 511 The Rise of the New Nation: 1789-1850
His 512 Civil War and Reconstruction: 1850-1876

For students who have had His 212:

His 513 Emergence of Modern America: 1876-1919
His 514 United States as a World Power: 1919-present
His 516 Recent American Diplomatic History

For students who have had His 101-102:

His 523 Contemporary World Affairs
His 530 Problems in Medieval Civilization
His 531 The Renaissance
His 532 The Protestant Revolution
His 533 Dynastic Europe: 1648-1789
His 534 The French Revolution and Napoleonic Era: 1789-1815
His 535 Nationalism and Democracy: 1815-1914
His 536 Europe Since 1914
His 540 The Evolution of Modern Russia
His 541 Tudor and Stuart England

(Other courses by approval of the Division of Social Sciences)

MASTER OF ARTS IN HISTORY
(30 Semester Hours)

The Master of Arts degree in history provides a sound foundation for study leading to the doctorate in history as well as a background of knowledge for teachers in secondary schools and institutions of higher learning and for persons employed in industry and government. The degree also enriches the student's cultural background and helps him to evaluate present events in light of the past.

The M.A. in history may be achieved by completing **either** a thesis or non-thesis program. The candidate in the thesis program must pass a reading-proficiency test in either French or German. The candidate, with

the Department Chairman's approval, may substitute another language or may demonstrate competency in statistics. In the non-thesis program, the candidate does not fulfill the language requirement but takes three seminar courses and presents a research paper in each.

	Semester Hours
Required Area	**18**
Major history concentration (American or European — at least two seminars)	12
Minor History concentration (In area not selected for major concentration)	6
Elective Area	
Thesis Option	**12**
His 610 Thesis	6
SSc 500 Methods and Materials of Research	2
Electives, under advisement	4
Non-Thesis Option	**12**
SSc 500 Methods and Materials of Research	2
His 550A or His 550B [Major-field seminars with research papers]	4
His 550A or His 550B [Minor-field seminars with research paper]	2
Electives under advisement	4

COURSE SELECTIONS

American

His 508 Colonial America: 1607-1763
His 509 Revolutionary America: 1763-1789
His 511 Rise of the New Nation: 1789-1850
His 512 Civil War and Reconstruction: 1850-1876
His 513 Emergence of Modern America: 1876-1919
His 514 The United States as a World Power: 1919-Present
His 515 Problems in American Constitutional Development
His 516 Recent American Diplomatic History
His 550A Seminar in American History

European

His 530 Problems in Medieval Civilization
His 531 The Renaissance
His 532 The Protestant Revolution
His 533 Dynastic Europe: 1648-1789
His 534 The French Revolution and the Napoleonic Era: 1789-1815
His 535 Nationalism and Democracy: 1815-1914
His 536 Europe Since 1914
His 540 The Evolution of Modern Russia
His 541 Tudor and Stuart England
His 550B Seminar in European History

Electives

Eco 531 Comparative Economic Systems
Eco 532 History of Economic Thought
Geo 527 Political and Global Concepts in Geography
Geo 529 Geographic Influences in World History
His 523 Contemporary World Affairs
His 524 Studies in the History and Culture of South Asia
His 525 Studies in the History and Culture of East Asia
His 527 Studies in the History and Culture of Emerging Africa
PSc 531 Modern Political Theory
PSc 532 Seminar in International Relations
PSc 533 The American Legislative Process
PSc 540 Democracy and Totalitarianism
Soc 532 Historical Sociology

Political Science

Dr. Harding, Chairman

PROFESSOR
Clifford H. Harding, A.B., M.A., Ph.D.

ASSOCIATE PROFESSORS
William F. Burns, B.A., M.A.
A. Wayne Burton, B.A., M.A.
David S. Eldredge, B.A., A.M.T.
John C. Shea, B.A., M.A.

POLITICAL SCIENCE OFFERINGS

PSc 531 Modern Political Theory
PSc 532 Seminar in International Relations
PSc 533 The American Legislative Process
PSc 540 Democracy and Totalitarianism
PSc 550 Seminar in Political Science

Psychology

Dr. Clark, Chairman

PROFESSORS
Jay L. Clark, B.A., M.A., Ph.D.
Catherine E. Gregg, B.A., M.A., Ph.D.
Martin J. Higgins, B.S., M.A., Ph.D.

ASSOCIATE PROFESSORS
Ruth C. Feldman, B.A., M.A., M.S.S., Ed.D.
Samuel F. Klugman, B.S., M.Sc.Ed., Ph.D.
J. Bertrand E. Nadeau, B.A., Ph.D.
Jack Porter, B.S., M.Ed., Ed.D.

ASSISTANT PROFESSOR
Walena C. Morse, A.B., M.A., Ph.D.

PSYCHOLOGY OFFERINGS

Psy 501 Introductory Statistics for the Behavioral Sciences
Psy 502 Advanced Statistics for the Behavioral Sciences
Psy 552 Seminar in Human Development and Behavior: Adolescence
Psy 554 Seminar: Adolescent Case Studies
Psy 557 Psychology of Adjustment
Psy 562 Psychology of Personality
Psy 563 Mental Hygiene
Psy 580 Individual Psychometric Techniques: Wechsler and Binet Scales

Sociology–Anthropology

Mr. Bram, Chairman

PROFESSOR
Glenn W. Samuelson, A.B., M.R.E., Ed.D.
ASSOCIATE PROFESSORS
Marshall J. Becker, B.A., M.A.
Ober J. Morning, B.A., M.A., M.A.
ASSISTANT PROFESSORS
Harold Bram, B.A., M.A.
Martin H. Murphy, A.B., A.M.

SOCIOLOGY–ANTHROPOLOGY OFFERINGS

Soc 531 Social Pathology
Soc 532 Historical Sociology
Soc 533 Intergroup Relations
Soc 550 Seminar in Sociology
Ant 530 Problems in Anthropology
Ant 550 Seminar in Anthropology

School of Education

Harold W. Benda, *Dean*
Michael F. Bannon, *Associate Dean for Graduate Studies*
John A. Lander, *Assistant to the Dean*

Department of Elementary Education

Dr. King, **Chairman**

PROFESSOR
Charlotte E. King, B.S., Ed.M., Ed.D.

ASSOCIATE PROFESSORS
Lawrence B. Charry, B.A., M.A., Ed.D.
Charlotte M. Good, B.S., M.Ed.
Ethel G. Haas, B.S., M.Ed.
James E. Habecker, A.B., M.Ed.
Robert W. Herres, B.S., M.A.
Michael Labuda, A.B., M.Ed., Ed.D.
Erminio J. Peta, B.S., M.Ed.
Mildred E. Ross, B.S., M.S., Ed.D.

ASSISTANT PROFESSORS
Nona E. Chern, B.S., M.S.
Edward H. Gibson, B.S., M.Ed.
Carrie C. Kulp, A.B., M.Ed.

Department of Secondary Education and Professional Studies

Dr. Ridley, **Chairman**

PROFESSORS
Michael F. Bannon, B.S., M.A., Ed.D.
Harold W. Benda, B.A., M.A., Ed.D.
John L. Crew, B.S., M.A., Ph.D.
Mark M. Evans, B.Ph., M.Ed. Ph.D.
Walter N. Ridley, A.B., M.A., Ed.D.

ASSOCIATE PROFESSORS
Luther R. Barth, B.S., M.Ed.
Kegham A. Mississyan, B.A., M.A.
Reynold D. Paganelli, B.S., M.A., C.A.S.
George M. Thomas, B.S., M.Ed.

Graduate Program in Educational Media

Dr. Weagley, **Coordinator**

PROFESSORS
Chester L. McTavish, B.S., M.S., Ed.D.
Richard L. Strayer, B.S., M.Ed., Ed.D.
Richard P. Weagley, B.S., M.Ed., Ed.D.

ASSOCIATE PROFESSOR
David L. Redmond, B.S., M.S.

ASSISTANT PROFESSOR
Jay P. Steinmetz, B.S., M.Ed.

Graduate Program in Guidance and Counseling

Dr. Kramer, **Coordinator**

PROFESSORS
Julius M. Hill, B.S., M.A., Ph.D.
Abe S. Kramer, B.A., M.A., Ph.D.

ASSOCIATE PROFESSORS
Joyzelle Clark, B.A., Ed.M.
Ronald L. Gottshall, B.S,. M.A.
William J. Rahn, B.S., M.Ed.
Lester N. Recktenwald, B.S., M.A.
Julian M. Swiren, B.S., M.S.

Special Education

Mr. Freeman, **Coordinator**

ASSOCIATE PROFESSORS
Howard Freeman, B.S., M.A.
Saul H. Greenberg, B.S., M.Ed.

Urban Education

Mr. Leeds, **Coordinator**
ASSOCIATE PROFESSOR
F. William Leeds, A.B., M.A.

Demonstration School

PRINCIPAL, ASSOCIATE PROFESSOR
Gerald B. Cartright, B.S., M.Ed.

The School of Education, working cooperatively with the total College community, assumes the responsibility for providing technical knowledge and skills to be used by the teacher in service and seeks to further develop social, ethical, and professional attitudes necessary for success in teaching.

The School of Education offers course work leading to the Master of Education degree in educational media, elementary education, and guidance and counseling. In addition to teacher certification requirements, programs which certify educational media specialists and guidance counselors are also offered.

In the spring of 1969, the College was approved to offer the Master of Science in Educational Research. Information about this new degree program, which will be coordinated in the School of Education, is available from the School of Education.

Educational Media
(Audio-Visual Education)

Dr. Weagley, Coordinator

Through its Educational Media Program, the School of Education offers two curricula, one leading to the Master of Education and the other to the Educational Media Specialist Certification. It is possible to pursue both programs concurrently.

The degree program prepares the candidate for the position of audio-visual coordinator in elementary or secondary schools as well as for instructional or administrative positions in the audio-visual field in junior colleges. The program also enables persons in business and industry to gain competence in the communications field.

The Master of Education

Students admitted to the master's degree program are required to submit scores for the Graduate Record Examination Aptitude Test during their first session (fall, spring, or summer) of enrollment.

Admission to Degree Candidacy

Upon completion of 15 semester hours, application for degree candidacy may be made by students who meet the following requirements:

1. A 3.00 average in courses in Educational Media.
2. A 2.75 average in overall graduate work.
3. Successful performance on the Graduate Record Examination.
4. Satisfactory performance on a proficiency examination in the field of Educational Media.

The Comprehensive Examination

Admission to the comprehensive examination is gained by meeting the following requirements:

1. Admission to degree candidacy.
2. Completion of all required courses and 28 semester hours of course work.

Degree Requirement

The candidate must perform satisfactorily on the comprehensive examination and satisfactorily complete the curriculum shown below.

MASTER OF EDUCATION IN EDUCATIONAL MEDIA
(Non-Thesis Program — 34 Semester Hours)

		Semester Hours	
I	**Required Courses**		**5**
	EdF 500 Methods and Materials of Research in Education	2	
	EdF 510 Educational Foundations	3	
II	**Area of Concentration**		**22–29**
	A. **Required Courses**	19	
	EdM 502 Selection and Effective Utilization of Educational Media	2	
	EdM 511 Programmed Instruction and Teaching Machines	3	
	EdM 519 Library Science	2	
	EdM 521 Production of Non-Projected Materials	3	
	EdM 523 Production of Projected Still Materials	3	
	EdM 555 Learning Theories Related to Educational Media	2	
	EdM 560 Organization and Administration of the Audio-Visual Program	2	
	EdM 590 Internship Program in Educational Media	2	
	B. **Electives,** chosen from the following:	3-10	
	EdM 501 Orientation to Educational Media	3	
	EdM 505 The Motion Picture in Education	2	
	EdM 508 Audio-Visual Materials in the Elementary School Curriculum	2	
	EdM 509 Audio-Visual Materials in the Secondary School	2	
	EdM 525 Photography for Teachers	3	
	EdM 533 Television in Education for Teachers	3	
	EdM 552 History and Philosophy of Educational Media	2	
	EdM 565 Seminar in Instructional Materials	2	
	EdM 591 Seminar in Research in Communications	2	
III	**Research**		**0–2**
	EdM 600 Research Report	0-2	
IV	**Free Electives (under advisement)**		**0–5**

EDUCATIONAL MEDIA SPECIALIST CERTIFICATION

In order to attain the certificate, the student must:

A. Hold a permanent certificate valid for elementary or secondary education.

B. Complete a minimum of 24 semester hours in the curriculum of educational media, incorporating at least one course in each of the following areas:

(1) Learning theory relevant to educational media and communications.

(2) Fundamentals of library science.

(3) Production and utilization of educational media.

(4) Organization and operation of educational media centers.

C. Achieve an average of 2.75 in Educational Media courses.

D. Perform successfully on a final comprehensive examination.

E. Complete satisfactorily the program shown below.

CURRICULUM FOR EDUCATIONAL MEDIA SPECIALIST CERTIFICATION (24 Semester Hours)

			Semester Hours
I	**Required Courses**		**13–14**
	EdM 502	Selection and Effective Utilization of Educational Media	2
		or	
	EdM 511	Programmed Instruction and Teaching Machines	3
	EdM 519	Library Science	2
	EdM 521	Production of Non-Projected Materials	3
	EdM 523	Production of Projected Still Materials	3
	EdM 555	Learning Theories Related to Educational Media	2
	EdM 560	Organization and Administration of the Audio-Visual Program	2
	EdM 590	Internship Program in Educational Media	2
II	**Electives**		**6–11**
	EdM 501	Orientation to Educational Media	3
	EdM 505	The Motion Picture in Education	2
	EdM 508	Audio-Visual Materials in the Elementary School Curriculum	2
	EdM 509	Audio-Visual Materials in the Secondary School	2
	EdM 525	Photography for Teachers	3
	EdM 533	Television in Education for Teachers	3
	EdM 552	History and Philosophy of Educational Media	2
	EdM 565	Seminar in Instructional Materials	2
	EdM 591	Seminar in Research in Communications	2
III	**Free Electives (on advisement)**		**0–5**

Department of Elementary Education

Dr. King, Chairman

The Department of Elementary Education offers the Master of Education degree in elementary education as well as programs leading to teacher certification.

Applicants for graduate study in the Department of Elementary Education are expected to be elementary school teachers or students who plan to become elementary school teachers. Students whose undergraduate major was **not** elementary education may, at the discretion of the Department Chairman, be required to take course work beyond the minimum credit-hour requirements.

Obtaining Certification in Elementary Education

Students who are not certified to teach in any field and who wish to earn certification in elementary education are referred to "Intern Program."

Graduate Record Examination

Students admitted to the master's degree program are required to submit scores for the Graduate Record Examination Aptitude Test during their first session (fall, spring, or summer) of enrollment.

Requirements for Admission to Degree Candidacy

1. Acceptable scores for the Graduate Record Examination Aptitude Test must be on file.
2. Within the pre-candidacy period (the first 15 semester hours), the applicant must complete EdE 501 and two additional EdE courses.
3. Within the pre-candidacy period the applicant must maintain an overall average of 2.75 and a minimum average of 3.00 in elementary education.

If the applicant's failure to meet the grade-average minimums is marginal or if his performance on the GRE is not entirely satisfactory, he may be conditionally admitted to degree candidacy. The removal of conditional status must be discussed personally with the Department Chairman.

The Comprehensive Examination

This examination is given in February and July. In order to become eligible for it, the student must:

1. Earn unconditional acceptance to degree candidacy.
2. Complete 28 semester hours and all required courses by the end of the semester preceding the examination.
3. Maintain an overall average of at least 2.75, and a minimum of 3.00 in elementary education.

Applications for admission to the Comprehensive Examination are available from the Department and must be filed by December 1 for the February examination and May 1 for the July examination.

Candidates who fail the Comprehensive Examination are permitted one re-examination after an interval of not less than one year and not more than two years. Upon a second failure, candidates are automatically dropped from the degree program. This regulation applies to all current degree candidates, regardless of when they were admitted for graduate study.

Dates for 1970–71 Comprehensive Examinations

Saturday, Feb. 7, 1970	Saturday, Feb. 6, 1971
Saturday, July 11, 1970	Saturday, July 10, 1971

Requirements for the Degree

1. Satisfactory completion of the curriculum outlined below and, in unusual instances, of any additional courses which the department may require.
2. An overall grade average of at least 2.75 and a grade average of at least 3.00 in elementary education.
3. Satisfactory performance on the Comprehensive Examination.

MASTER OF EDUCATION IN ELEMENTARY EDUCATION
(30–34 Semester Hours)

		Semester Hours
I	**Required Courses**	**10–12**
	Hum 500 Humanities*	2
	EdF 500 Methods and Materials of Research in Education (Elementary)	2
	EdE 501 Introduction to Graduate Study in Elementary Education**	2
	EdF 510 Educational Foundations	3
	EdP 550 Advanced Educational Psychology	3

* May be waived with permission of Department Chairman.

** Required of all elementary education students admitted to graduate study after September 1, 1967.

NON-THESIS PROGRAM (34 s.h.)

II Area of Concentration **21–24**

A. For candidates whose baccalaureate degree was in elementary education.

Required			8
EdR 514	Reading in the Content Areas	3	
EdE 547	Elementary School Curriculum	2	
EdE 553	Child Development and Behavior II	3	
Electives (to be chosen under advisement)			13-16
Professional education		4-6	
Free electives		8-12	

B. For candidates certified to teach but whose undergraduate degree was not in elementary education

Required			20
EdE 505	The Teacher in the Elementary School	2	
EdR 510	Foundations of Reading Instruction	3	
EdR 514	Reading in the Content Areas	3	
EdE 522	Teaching the Communication Skills	2	
EdE 530	Social Studies in Elementary Education	2	
EdE 547	Elementary School Curriculum	2	
EdE 551	Child Development and Behavior I	3	
Mat 555	Modern Techniques of Teaching Elementary School Mathematics	3	
Electives, (to be chosen under advisement)			2-4

III Research **0–1**

EdE 600 Research Report

THESIS PROGRAM (30 s.h.)

The Thesis Program is not recommended for candidates whose baccalaureate degree was not in elementary education.

II Area of Concentration **15–17**

Required (See A. above)	8
Electives (chosen under advisement)	7-9

III Research **3**

EdE 610 Thesis

ELECTIVES

Electives may be chosen from the course offerings of any department with the approval of the department involved and of the Elementary Education Department. Professional-education courses in the area of concentration are to be selected, under advisement, from the offerings of the Elementary Education Department (Group 1) and from the offerings of other departments (Group 2).

Group 1. Electives offered by the Elementary Education Department

EdE 505 The Teacher in the Elementary School
EdR 510 Foundations of Reading Instruction
EdR 514 Reading in the Content Areas
EdR 516 Reading Disabilities
EdE 522 Teaching the Communication Skills
EdE 525 Curriculum and Research in the Language Arts
EdE 530 Social Studies in Elementary Education
EdE 532 Curriculum and Research in Social Studies
EdE 541 Unit Teaching in the Elementary School
EdE 543 Creative Expression in the Elementary School
EdE 545 The Kindergarten-Primary School Program
EdE 547 Elementary School Curriculum
EdE 551 Child Development and Behavior I
EdE 553 Child Development and Behavior II
EdE 560 Meeting Individual Needs of Children
EdE 561 Guidance in the Elementary School
EdE 563 Evaluation in the Elementary School
EdE 565 Effective Classroom Management
EdE 570 Supervision in the Elementary Classroom

Group 2. Electives offered in other departments

Art 500 Art Education in the Elementary School
Bio 596 Independent Study in Biological Science for Elementary Teachers
EdF 504 Middle School Workshop
EdM 508 Audio-Visual Materials in the Elementary School Curriculum
Eng 504 Linguistics for the Elementary School
HEd 541 School-Community Health Education Workshop
Lan 502 FLES (Foreign Languages in the Elementary School)
Lit 550 Literature for the Elementary School
Mat 501 Fundamental Concepts of Mathematics I
Mat 502 Fundamental Concepts of Mathematics II
Mat 555 Modern Techniques of Teaching Elementary School Mathematics
Mat 556 Development of the Mathematics Curriculum in the Elementary Grades
Mus 505 Vitalizing Music in the Elementary School
Mus 506 Teaching of Music Appreciation in the Elementary Grades
Mus 507 Music Education in the Elementary School
Mus 524 Keyboard Activities for the Classroom Teacher
PEd 502 Elementary Physical Education Workshop
PEd 572 The Child and Physical Education
PhS 570 Chemistry for the Elementary Teacher
PhS 571 Astronomy for the Elementary Teacher
PhS 595 Elementary School Science and Instruction
Sci 520 New Trends in the Elementary School Science Curriculum

Graduate Program in Guidance and Counseling

Dr. Kramer, Coordinator

The School of Education offers a degree program leading to the Master of Education in Guidance and Counseling for elementary school counselors and secondary school counselors. The degree is also appropriate for professionals employed in mental health clinics and hospitals, social and community agencies, and in anti-poverty programs.

Applicants must present a minimum overall average of 2.50 for their undergraduate work and a background area of 15 semester hours in guidance-related courses, with a minimum of 2.75. The background area may include courses in psychology and certain courses in sociology and education. A determination of appropriate background courses or of deficiencies is necessary for each individual in the program. This evaluation is made when the completed application is submitted.

If there are deficiencies to be met, the necessary course work must precede any other program requirements during the pre-candidacy period. Credit for the courses which satisfy deficiencies must have a 2.75 average. This credit is not applied to the total required for the degree.

For elementary counseling majors the background area must include a course in human development (child) or child psychology. If such a course is lacking, the student must take EdE 551—Child Development and Behavior I.

For secondary counseling majors the background area must include a course in human development (adolescent) or adolescent psychology. If this is lacking, the student must meet the deficiency with Psy 552—Seminar in Human Development and Behavior: Adolescence.

Professional Experience Requirement

Before the degree is granted, candidates are expected to have completed a minimum of two years of experience in teaching or other approved full-time professional experience.

Requirements for Degree Candidacy Application

Within the pre-candidacy period the applicant must:

1. Attain satisfactory scores on the Graduate Record Examination, which must be taken before or during the first session (fall, spring, or summer) of enrollment. Both the Aptitude Test and one of the Advanced Tests are required. The student must select one of three Advanced Tests: education, psychology, or sociology.
2. Remove background deficiencies, under advisement.
3. Complete EdF 500, EdF 510, and Psy 501.
4. Achieve an overall average of no less than 2.75 and an average of 3.00 in the professional guidance and counseling courses. (All courses must have prior approval.)

The Comprehensive Examination

In order to be admitted to the Comprehensive Examination (given twice a year), the candidate

1. Must be a formally approved degree candidate in good standing.
2. Must have an overall average of no less than 2.75 and an average of 3.00 in the professional guidance and counseling courses. (All courses must have prior approval.)
3. Must have completed not less than 28 credits, including all required courses, by the end of the semester preceding the examination.

MASTER OF EDUCATION IN GUIDANCE AND COUNSELING
(30–34 Semester Hours)

		Semester Hours	
I	**Foundations of Education and Research**		**7**
	EdF 500 Methods and Materials of Research in Education	2	
	EdF 510 Educational Foundations	3	
	Psy 501 Introductory Statistics for the Behavioral Sciences	2	
II	**Professional Background Area (Required)**		**14–15**
	Required of Both Elementary and Secondary School Counselor-Candidates	9	
	EdC 503 Principles and Techniques of Guidance	2	
	EdC 540 Evaluative Methods in Guidance	3	
	EdC 562 Organization and Administration of the School Guidance Program	2	
	EdC 570 Principles and Techniques of Counseling	2	
	Required of Elementary School Counselor Candidates Only	6	
	EdC 568 The Professional Counselor in the Elementary School	3	
	EdE 553 Child Development and Behavior II	3	
	Required of Secondary School Counselors Only	5	
	EdC 556 Occupational, Educational, and Social Information in Guidance	2	
	Psy 554 Seminar: Adolescent Case Studies	3	

III	**Professional Background Area (Electives)**		**2–9**
	(Chosen from the following with approval of the adviser)		
	EdC 567 Group Dynamics	2	
	EdC 573 Advanced Theory and Methods of Counseling	2	
	EdU 501 Curricular Adaptations for the Culturally Disadvantaged	3	
	EdU 502 Human Relations and the Community	3	
	Psy 502 Advanced Statistics for the Behavioral Sciences	2	
	THESIS PROGRAM (30 s.h.)		
IV	**Advanced Professional Area**		**6**
	EdC 590 Practicum in Guidance and Counseling	3	
	EdC 610 Thesis	3	
	NON-THESIS PROGRAM (34 s.h.)		
IV	**Advanced Professional Area**		**4**
	EdC 590 Practicum in Guidance and Counseling	3	
	EdC 600 Research Report	1	

ADDITIONAL ELECTIVES

Upon permission from the Coordinator, electives may also be chosen from the following:

EdA 570 Psychology of the Mentally Atypical Child
EdE 547 Elementary School Curriculum
EdS 502 Secondary School Curriculum
Hum 500 Humanities
Psy 562 Psychology of Personality
Psy 563 Mental Hygiene
Psy 580 Individual Psychometric Techniques: Wechsler and Binet Scales (not for degree credit in the Guidance and Counseling Graduate Program)
Soc 531 Social Pathology

Note: Electives not listed in the above program may be credited only with prior approval by the Coordinator.

Department of Secondary Education and Professional Studies

Dr. Ridley, Chairman

In addition to providing certain of the professional-education courses required in certification and M.Ed. degree programs, the Department of Secondary Education and Professional Studies offers courses which strengthen the skills of educators.

COURSES IN SECONDARY EDUCATION AND PROFESSIONAL STUDIES

EdF 500 Methods and Materials of Research in Education
EdS 502 Secondary School Curriculum
EdF 504 Middle School Workshop
EdS 506 The Junior High School
EdS 508 The Core Curriculum
EdF 509 Contemporary Teaching Trends
EdF 510 Educational Foundations
EdF 520 Comparative Education
EdS 524 Supervision of Student Teaching
EdF 525 The Teacher and Administrative Leadership
EdF 528 Creative Teaching
EdP 550 Advanced Educational Psychology
EdS 566 The Activity Program in the Secondary School
EdF 580 History and Philosophy of Education
EdF 590 School Law

SCHOOL OF EDUCATION OFFERINGS

The School of Education offers professional courses for students in all curricula. Electives may be chosen from the following list,* subject to approval from the student's adviser and the School of Education. Prerequisites, shown in the course descriptions, should be noted.

* Department of Elementary Education offerings, which are also available to all curricula, subject to approval, may be noted under Department of Elementary Education.

Educational Media

EdM 501 Orientation to Educational Media
EdM 502 Selection and Effective Utilization of Educational Media
EdM 505 The Motion Picture in Education
EdM 508 Audio-Visual Materials in the Elementary School Curriculum
EdM 509 Audio-Visual Materials in the Secondary School
EdM 511 Programmed Instruction and Teaching Machines
EdM 521 The Production of Non-Projected Materials
EdM 523 The Production of Projected Still Materials
EdM 525 Photography for Teachers
EdM 533 Television in Education for Teachers

Guidance and Counseling

EdC 503 Principles and Techniques of Guidance
EdC 540 Evaluative Methods in Guidance
EdC 556 Occupational, Educational, and Social Information in Guidance
EdC 562 Organization and Administration of the Guidance Program
EdC 564 Homeroom Guidance
EdC 567 Group Dynamics

Professional Education

EdF 509 Contemporary Teaching Trends
EdF 520 Comparative Education
EdF 528 Creative Teaching
EdF 580 History and Philosophy of Education
EdF 590 School Law
EdP 550 Advanced Educational Psychology

Reading

EdR 510 Foundations of Reading Instruction
EdR 514 Reading in the Content Areas
EdR 516 Reading Disabilities
EdR 521 Practicum: Introduction to Diagnostic Techniques
EdR 522 Practicum: Advanced Diagnostic Techniques

Secondary Education

EdS 502 Secondary School Curriculum
EdS 504 Middle School Workshop
EdS 506 The Junior High School
EdS 508 The Core Curriculum
EdS 524 Supervision of Student Teaching
EdS 566 The Activity Program in the Secondary School

Special Education

EdA 540 Workshop in Special Education
EdA 570 Psychology of the Mentally Atypical Child
EdA 571 Psychology of the Child with Learning Disabilities

Urban Education

EdU 501 Curricular Adaptations for the Culturally Disadvantaged
EdU 502 Human Relations and the Community

School of Health and Physical Education

Dr. Sheets, *Dean*
Dr. Youmans, *Associate Dean for Graduate Studies*

PROFESSORS
Norman A. Cochran, B.S., M.A., Ed.D.
Edwin B. Cottrell, B.S., M.Ed., Ed.D.
Robert Mitten, A.B., M.A., Ed.D.
Edward N. Norris, B.S., M.S., Ed.D.
Norman L. Sheets, A.B., M.S., Ed.D.
Russell L. Sturzebecker, B.S., Ed.M., Ed.D.
Edwin L. Youmans, B.A., M.A., Ph.D.

ASSOCIATE PROFESSORS
Clinton Bruess, B.S., M.A., Ed.D.
Alvin B. Davis, B.S., M.A.
Phillip B. Donley, B.S., M.S., Certificate in Physical Therapy
Melvin M. Lorback, B.S., M.S.
John R. Steinmetz, B.S., M.Ed.
Lloyd Wilkinson, B.S., M.A.
Alexander J. Young, Jr., B.S., M.A., Ph.D.

The School of Health and Physical Education offers degrees leading to the Master of Education and the Master of Science in health and physical education. The Master of Education enriches academic preparation for teaching in the public schools and prepares the successful candidate for teaching at the college level. The Master of Science is designed primarily to meet the individual needs of the graduate student who wishes to pursue graduate work beyond the master's degree and leading to the doctoral degree. The M.S. degree also prepares personnel to serve as staff in institutions of education, government, and industry.

Communicating with the School

Communications regarding the graduate program in health and physical education should be addressed to the Associate Dean for Graduate Studies, 106 West Rosedale Avenue, West Chester, Pa. 19380.

The Master of Education Program

Admission to the M.Ed. Program

The applicant must present an undergraduate record having a minimum overall average of 2.00 and a minimum grade of 2.00 in the major.

Admission to M.Ed. Degree Candidacy

Within the 15 semester hours of pre-candidacy, the applicant must complete four of the following five required courses: PEd 500, 530, 550, 561, and HEd 540. His minimum grade-point average for these courses must be 2.75.

Requirements for the M.Ed. Degree

1. Satisfactory completion of the curriculum shown below, with an overall average of 2.75 and an average of 3.00 in health and physical education.
2. Satisfactory performance on the written and/or oral comprehensive examinations.

The Master of Science Program

Admission to the M.S. Program

The applicant must present an undergraduate record having a minimum overall average of 2.5 and a minimum average of 2.75 in the major field.

He must achieve a combined score of 800 on the Aptitude Section of the Graduate Record Examination and a score of 400 on the Advanced Test.

Admisssion to M.S. Degree Candidacy

Within the 15 semester hours of the pre-candidacy period, the applicant is expected to complete three of the following four required courses: PEd 500, 530, 550, and Psy 501. His grade-point average for these and other courses taken during pre-candidacy must be at least 3.00.

Requirements for the M.S. Degree

1. Satisfactory completion of the curriculum shown below, with an overall average of 3.00.
2. Oral defense of the thesis.
3. Satisfactory performance on the written and/or oral comprehensive examinations.

MASTER OF EDUCATION IN HEALTH AND PHYSICAL EDUCATION

(34 Semester Hours)

		Semester Hours
Area I		**20**
A. **Basic Required**		
EdF 510	Educational Foundations	3
PEd 500	Methods and Materials of Research in Health and Physical Education	2
PEd 530	Scientific Bases for Health and Physical Education	3
PEd 550	Historical and Philosophical Bases for Health and Physical Education	3
PEd 561	Techniques of Measurement and Evaluation in Health and Physical Education	3
HEd 540	School Health Problems	3
B. **Research Project**		
PEd 591	Research Project Seminar I	2
PEd 592	Research Project Seminar II	1

Area II **6**

Selected Required (only one of the two HEd courses may be selected)

PEd 562	Administration and Supervisory Practices in Health, Physical Education, Recreation, and Athletics	3
PEd 570	Curriculum in Health and Physical Education	3
HEd 565	Scientific Bases for Health	3
	or	
HEd 567	Sociological Bases for Health	3

Area III **8**

Electives, chosen from the list below.

ELECTIVES FOR THE M.Ed. PROGRAM IN HEALTH AND PHYSICAL EDUCATION

PEd 502 Elementary Physical Education Workshop
PEd 510 School and Community Recreation
PEd 512 Outdoor Education Workshop
PEd 520 Scientific Principles of Coaching
PEd 531 Adapted Physical Education
PEd 534 Modern Principles of Athletic Training
PEd 541 School-Community Health Education Workshop
PEd 551 Seminar in Professional Literature in Health, Physical Education, and Recreation
PEd 560 Contemporary Problems in Health, Physical Education, and Recreation
PEd 562 Administrative and Supervisory Practices in Health, Physical Education, Recreation and Athletics
PEd 563 Scientific Measurement and Instrumentation
PEd 564 Biodynamics of Human Performance
PEd 566 Mechanical Analysis of Motor Skills
PEd 570 Curriculum in Health and Physical Education
PEd 571 Comparative Physical Education
PEd 572 The Child and Physical Education
PEd 573 The Olympic Games — Their Influences on the Ancient and Contemporary Worlds
PEd 580 History and Philosophy of Safety Education and Principles of Accident Prevention
PEd 581 Contemporary Practices and Program Evaluation in Safety Education
PEd 582 Problems in Traffic and Driver Education
PEd 583 Psychology in Safety Education and Accident Prevention
HEd 565 Scientific Bases for Health
HEd 567 Sociological Bases for Health

MASTER OF SCIENCE IN HEALTH AND PHYSICAL EDUCATION
(30 Semester Hours)

		Semester Hours
I	**Area of Concentration**	**11**
	PEd 500 Methods and Materials of Research in Health and Physical Education	2
	PEd 530 Scientific Bases for Health and Physical Education	3
	PEd 550 Historical and Philosophical Bases for Health and Physical Education	3
	Psy 501 Introductory Statistics for the Behavioral Sciences	3
II	**Thesis**	**6**
	PEd 593 Seminar	2
	PEd 610 Thesis	4
III	**Electives**	**13**
	A. Electives from either the scientific group or the social and cultural group below, selected under advisement	7-10
	B. Electives in related areas of field, selected under advisement	3-6

ELECTIVES FOR THE M.S. PROGRAM IN HEALTH AND PHYSICAL EDUCATION

SCIENTIFIC GROUP

PEd 520 Scientific Principles of Coaching
PEd 531 Adapted Physical Education
PEd 534 Modern Principles of Athletic Training
PEd 551 Seminar in Professional Literature in Health, Physical Education, and Recreation
PEd 561 Techniques of Measurement and Evaluation in Health and Physical Education
PEd 563 Scientific Measurement and Instrumentation
PEd 564 Biodynamics of Human Performance
PEd 566 Mechanical Analysis of Motor Skills
HEd 565 Scientific Bases for Health

SOCIAL CULTURAL GROUP

PEd 560 Contemporary Problems in Health, Physical Education and Recreation
PEd 562 Administration and Supervisory Practices in Health, Physical Education, Recreation, and Athletics
PEd 570 Curriculum in Health and Physical Education
PEd 571 Comparative Physical Education
PEd 572 The Child and Physical Education
PEd 573 The Olympic Games — Their Influences on the Ancient and Contemporary Worlds
HEd 567 Sociological Bases for Health

Service Courses

The following courses are open to all curricula, with no prerequisite in health and physical education required: PEd 502, 510, 512, 520, 541, and HEd 540.

School of Music

Lloyd C. Mitchell, *Dean*
Alexander Antonowich, *Assistant Dean*
Charles A. Sprenkle, *Associate Dean for Graduate Studies*

Lloyd C. Mitchell, B.Mus., M.Mus., Ed.D.	**Dean, Professor**
Alexander Antonowich, B.S., M.A., Ed.D.	**Assistant Dean, Professor**
Charles A. Sprenkle, B.Mus., B.S., M.Mus.	**Associate Dean for Graduate Studies and Research, Associate Professor**
Lois W. Alt, B.S., B.Mus., M.Mus.	**Associate Professor of Voice**
Edward A. Barrow, B.Mus., M.Mus.	**Associate Professor of Brass**
Robert L. Carl, B.S., B.Mus., M.Mus.	**Chairman, Department of Keyboard Music, Assistant Professor**
Paul E. Carson, B.S., M.F.A.	**Chairman, Department of Instrumental Music, Associate Professor**
Frank T. Cheesman, B.Mus.Ed., B.Mus., M.Mus., Ed.D.	**Coordinator of Clinics, Conferences, and Recitals, Professor of Voice**
Charles D. Gangemi, B.A., M.A.	**Associate Professor of Piano**
Miriam S. Gottlieb, A.B., M.A.	**Associate Professor of Piano**
Helen E. Hales, B.Mus., M.Mus.	**Associate Professor of Piano**
Constantine Johns, B.S., M.A., Ed.D.	**Professor of Music History and Literature/Strings**
S. Powell Middleton, B.S., M.S.	**Assistant Professor of Music History/Instrumental Music**
Arthur Parris, B.S., M.A., Ph.D.	**Professor of Music History and Literature**
Frederick C. Pflieger, B.S., M.Mus.	**Chairman, Department of Music Education, Associate Professor**
Robert D. Schick, B.A., M.A., A.Mus.D.	**Professor of Music History and Literature/Piano**
Jane E. Sheppard, B.Mus., M.A.	**Associate Professor of Voice and Choral Music**
James E. Smith, B.Mus., M.Mus	**Associate Professor of Violin**
Roy D. Sweet, B.S., M.Mus.	**Chairman, Department of Voice and Choral Music, Associate Professor**
James C. Thomson, A.B., M.A., M.A., Ph.D.	**Chairman, Department of Music History and Literature, Professor**
Richard K. Veleta, B.Mus., M.Mus., D.Mus.	**Professor of Piano**
W. Benjamin Whitten, B.Mus., M.Mus.	**Associate Professor of Piano/ Music History and Literature**
Harry Wilkinson, B.S., Ed.M., Ph.D.	**Professor of Music Theory and Composition/Organ**
Lois M. Williams, B.Mus., M.A.	**Associate Professor of Music History and Literature/Voice and Choral Music**
James J. Wright, B.S., Ed.M., Ph.D.	**Chairman, Department of Music Theory and Composition, Professor**

The School of Music offers degree programs leading to the Master of Education in music education and the Master of Arts in history and literature of music and—contingent upon approval from the Department of Public Instruction—will also offer programs leading to the Master of Music, beginning in the 1969-1970 academic year.

The Master of Arts will provide concentration in the history and literature of music. Three concentrations will be possible under the Master of Music program: applied music, theory, or composition. The design of each candidate's curriculum will be formulated in close liaison between the adviser and the candidate, with consideration for the latter's musical plans, needs, and abilities.

Admission to Degree Programs in Music

In addition to meeting the basic requirements of the College, given under **Admissions**, applicants must fulfill various requirements of the School of Music, as follows:

M.Ed. Applicants

Prior to enrollment, applicants must schedule an interview with the Associate Dean for Graduate Studies.

M.A. Applicants

Prior to enrollment, applicants must schedule an interview with the Chairman of the Department of Music History and Literature and must submit Graduate Record Examination scores for the morning tests and the afternoon test in music history. They must also demonstrate a reading proficiency in one foreign language, preferably German, although French is also suited to this purpose.

M.Mus. Applicants*

Prior to enrollment, applicants must schedule an appointment/audition with the chairman of the department in which the major will be taken.

Majors in theory and/or composition are expected to demonstrate sufficient pianistic ability to meet the demands of the program.

Majors in composition—prior to the audition—must submit original works showing technical facility in composition.

Majors in applied music must demonstrate performance ability at the advanced level. A list of performing repertoire should be submitted in advance of the audition. (An unaltered tape of performance may be submitted as evidence of performing ability; however, an audition may be required following enrollment.)

Placement Examinations

Placement examinations in music history and theory will be given to all applicants after admission.

* Note that the M.Mus. degree is pending Department of Public Instruction approval.

Explanation of Numbering System

Course numbers indicate the area of study in the following manner:

Music	Area of Study
500-504	Core Requirements
505-514	Music Education
515-549	Applied Music
550-554	Pedagogy
555-564	Literature
565-584	History
585-597	Theory
598-610	Research

Degree Requirements

Curricula for the programs are given below.

M.Ed. IN MUSIC EDUCATION
(30–34 Semester Hours)

			Semester Hours	
I	**Required Courses**			15
	EdF 510	Educational Foundations	3	
	Hum 500	Humanities	2	
	Mus 500	Methods and Materials of Research	2	
	Mus 501	Aspects of Musical Style I	3	
	Mus 502	Aspects of Musical Style II	3	
	Mus 510	Current Trends in Music Education	2	
		THESIS PROGRAM (30 s.h.)		
II	**Area of Concentration**			10
	A. **Required**		6	
	Section I—Music Education		2	
	Section II—Applied Music		4	
	B. **Electives** (chosen under advisement from Sections I–V)		4	
III	**Research**			5
	Mus 598-599	Research Seminar	2	
	Mus 610	Thesis	3	
		NON-THESIS PROGRAM (34 s.h.)		
II	**Area of Concentration**			13
	A. **Required**		6	
	Section I—Music Education		2	
	Section II—Applied Music		4	
	B. **Electives** (chosen under advisement from Sections I–V)		7	
III	**Free Electives**			4
	A. Music—Sections I–V		2-4	
	B. Chosen from any curriculum		0-2	

IV Research 2

Mus 598 Research Seminar 1
Mus 600 Research Report 1

MASTER OF MUSIC*
(30 Semester Hours)

APPLIED MUSIC

Semester Hours

I Required Courses 6

Mus 501 Aspects of Musical Style I 3
Mus 502 Aspects of Musical Style II 3

II Area of Concentration (given below for each major) 18

III Free Electives 4

Music—Sections I–V 2
Chosen from any curriculum 2

IV Recital (Mus 605) 2

Piano Major

II Area of Concentration 18

A. **Required** 16
Mus 543-547 Advanced Individual Lessons 10
Mus 556 Piano Literature I 2
Mus 557 Piano Literature II 2
Mus 523 Ensemble **or** Mus 528 Accompanying 2
B. **Elective** (chosen under advisement) 2
Mus 550 Piano Pedagogy or another course from the area of concentration 2

Voice Major

II Area of Concentration 18

A. **Required** 12
Mus 543-547 Advanced Individual Lessons 10
Mus 523 Ensemble 2
B. **Electives** (chosen under advisement) 6
1. Vocal
Mus 531 Opera Workshop 2
Mus 551 Vocal Pedagogy 2
Mus 558 Vocal Literature 2
Mus 575 History of the Opera 2
2. Choral
Mus 533 Advanced Choral Conducting 2
Mus 559 Choral Literature 2
Mus 579 Music of the Renaissance Period 2
Mus 589 Modal Counterpoint I 2

* Pending Department of Public Instruction approval.

Instrumental Major

II	**Area of Concentration**			**18**
	A. **Required**		12	
	Mus 543-547 Advanced Individual Lessons	10		
	Mus 523 Ensemble	2		
	B. **Electives** (chosen under advisement)		6	
	Mus 534 Advanced Instrumental Conducting	2		
	Mus 535 Advanced Class Lessons in Instruments	2		
	Mus 552 Marching Band Techniques and Materials	2		
	Mus 555 Instrumental Literature	2		
	Mus 560 Woodwind Literature	2		
	Mus 561 Brass Literature	2		
	Mus 562 String Literature	2		
	Mus 585 Advanced Band Arranging	2		

MASTER OF MUSIC*

(30 Semester Hours)

MUSIC THEORY OR COMPOSITION

				Semester Hours
I	**Required Courses**			**6**
	Mus 501 Aspects of Musical Style I	3		
	Mus 502 Aspects of Musical Style II	3		
II	**Area of Concentration (given below for each major)**			**16–17**
III	**Free Electives**			**4**
	Music—Sections I–V	2-4		
	Chosen from any curriculum	0-2		
IV	**Research (requirements given below for each major)**			**3–4**

Theory

II	**Area of Concentration in Theory of Music**			**16**
	A. **Required**		12	
	Mus 527 Advanced Keyboard Harmony	2		
	Mus 554 Pedagogy of Music Theory	2		
	Mus 588 Advanced Counterpoint	2		
	Mus 589 Modal Counterpoint I	2		
	Mus 590 Modal Counterpoint II	2		
	Mus 596 Seminar in Music Theory	2		
	B. **Electives** (chosen under advisement)		4	
	Mus 586 Advanced Orchestration	2		
	Mus 587 Advanced Musical Form	2		
	Mus 591 Advanced Composition I	2		
	Mus 594 Twentieth Century Musical Styles	2		
	Mus 595 Electronic Music	2		
III	**Research**			**4**
	A. Mus 598 Research Seminar	1		
	B. Mus 610 Thesis	3		

* Pending Department of Public Instruction approval.

Composition

II	**Area of Concentration in Composition**		**17**
	A. **Required**	13	
	Mus 586 Advanced Orchestration	2	
	Mus 588 Advanced Counterpoint	2	
	Mus 589 Modal Counterpoint I	2	
	Mus 591 Advanced Composition I	2	
	Mus 592 Advanced Composition II	2	
	Mus 594 Twentieth Century Musical Styles	2	
	Applied Music (under advisement)	1	
	B. **Electives** (chosen under advisement)	4	
	Mus 554 Pedagogy of Music Theory	2	
	Mus 587 Advanced Musical Form	2	
	Mus 590 Modal Counterpoint II	2	
	Mus 593 Advanced Composition III	2	
	Mus 595 Electronic Music	2	
	Mus 596 Seminar in Music Theory	2	
III	**Research**		**3**
	Mus 610 Thesis	3	

MASTER OF ARTS IN MUSIC
(30 Semester Hours)
HISTORY AND LITERATURE OF MUSIC

		Semester Hours	
I	**Required Courses**		**6**
	Mus 501 Aspects of Musical Style I	3	
	Mus 502 Aspects of Musical Style II	3	
II	**Area of Concentration**		**16**
	A. **Required**	10	
	1. Mus 565 Introduction to Research in Music History	2	
	2. Choices from the following	8	
	Mus 578 Music of the Medieval Period 2		
	Mus 579 Music of the Renaissance Period 2		
	Mus 580 Music of the Baroque Period 2		
	Mus 581 The Classical Age in Music 2		
	Mus 582 Music in the Romantic Era 2		
	Mus 583 Contemporary Music 2		
	B. **Electives** (chosen under advisement)	6	
	Section II—Applied Music	0-2	
	Section III—History of Music	2-6	
	Foreign Language	0-3	
III	**Free Electives**		**4**
	A. Music—Sections I–V	2	
	B. Choices from any curriculum	2	
IV	**Research**		**4**
	Mus 598 Research Seminar	1	
	Mus 610 Thesis	3	

ELECTIVE COURSES FOR MUSIC STUDENTS

SECTION I. MUSIC EDUCATION

Mus 507 Music Education in the Elementary School
Mus 508 Music Education in the Secondary School
Mus 509 Music Appreciation in the General Music Program
Mus 510 Current Trends in Music Education
Mus 511 Administration of Public School Music
Mus 550 Piano Pedagogy
Mus 551 Vocal Pedagogy
Mus 552 Marching Band Techniques and Materials
Mus 553 String Pedagogy
Mus 554 Pedagogy of Music Theory

SECTION II. APPLIED MUSIC

Keyboard

Mus 523 Piano Ensemble
Mus 528 Accompanying
Mus 536 Master Class in Piano
Mus 539-42 Piano or Organ Major
Mus 543-47 Advanced Piano or Organ

Vocal

Mus 519 Advanced Choir
Mus 523 Vocal Ensemble
Mus 529 Vocal Diction I
Mus 530 Vocal Diction II
Mus 531-32 Opera Workshop
Mus 533 Advanced Choral Conducting
Mus 536 Master Class in Voice
Mus 539-42 Voice Major
Mus 543-47 Advanced Voice

Instrumental

Mus 517 Workshop in Music History
Mus 519 Advanced Band, Orchestra, or Sinfonietta
Mus 523 Instrumental Ensemble
Mus 525-26 Class Lessons in Instruments
Mus 534 Advanced Instrumental Conducting
Mus 535 Advanced Class Lessons in Instruments
Mus 536 Master Class in Instruments
Mus 539-42 Instrument Major
Mus 543-47 Advanced Instrument

SECTION III. STRUCTURE AND ORGANIZATION OF MUSIC

Mus 585 Advanced Band Arranging
Mus 586 Advanced Orchestration
Mus 587 Advanced Musical Form
Mus 588 Advanced Counterpoint
Mus 589 Modal Counterpoint I
Mus 590 Modal Counterpoint II
Mus 591 Advanced Composition I
Mus 592 Advanced Composition II
Mus 593 Advanced Composition III
Mus 594 Twentieth Century Musical Styles
Mus 595 Electronic Music
Mus 596 Seminar in Music Theory

SECTION IV. LITERATURE AND HISTORY OF MUSIC

Mus 555 Instrumental Literature
Mus 556 Piano Literature I
Mus 557 Piano Literature II
Mus 558 Vocal Literature
Mus 559 Choral Literature
Mus 560 Woodwind Literature
Mus 561 Brass Literature
Mus 562 String Literature
Mus 565 Introduction to Research in Music History
Mus 569 Special Subjects Seminar
Mus 570 Bach and His Works
Mus 571 History of Instruments
Mus 572 String Chamber Music
Mus 573 History of Chamber Music
Mus 574 History of the Symphony
Mus 575 History of the Opera
Mus 576 History of Music in the United States
Mus 577 Music in Non-Western Civilizations
Mus 578 Music of the Medieval Period
Mus 579 Music of the Renaissance Period
Mus 580 Music of the Baroque Period
Mus 581 The Classical Age in Music
Mus 582 Music in the Romantic Era
Mus 583 Contemporary Music

SECTION V. ELECTIVE COURSES FOR ALL STUDENTS

Mus 515-16 Elementary Chorus, Band, or Orchestra
Mus 537-38 Individual Lessons at the Minor Level in Voice, Piano, Organ, and Instruments
Mus 566 Study and Appreciation of the Opera
Mus 567 Study and Appreciation of the Symphony
Mus 568 Music Criticism and Aesthetics

SECTION VI. SERVICE COURSES IN MUSIC EDUCATION

Mus 505 Vitalizing Music in the Elementary School
Mus 506 Teaching of Music Appreciation in the Elementary Grades

Intern Program

West Chester's intern program is designed for the person who has a baccalaureate degree and seeks teacher certification. Cooperatively conducted by the Office of Undergraduate Studies, the Office of Graduate Studies, and the School of Education, the program provides the necessary course work and meets the observed-teaching requirement through a teaching internship, with College supervisors providing the required supervision.

The intern program may be undertaken with the single purpose of obtaining teacher certification or it may be incorporated into a degree program. The intern semester provides 12 credits of observed-teaching experience, required for Pennsylvania certification. The 12 semester hours are recorded as undergraduate credit.

Unless the academic work for the program is composed entirely of undergraduate courses, the student must be duly enrolled in Graduate Studies (see Admissions) in order to undertake the intern program.

The prospective applicant must initiate his exploration of the program by consulting with the Office of Undergraduate Studies, where he will be oriented to available programs and procedures for application.

The candidate for certification must obtain his teaching position, which must be in a public school within the service area of the College and in a specialization for which West Chester has an approved program. The teacher-education programs which West Chester is approved to certify are given below. Also shown is a sample which would be typical for any of the certification programs in the 16 available fields in secondary education.

The elementary education intern program which is outlined shows a certification program and how the certification may be incorporated into a degree program.

Note that the requirements shown are minimal; every program is individually developed according to the candidate's undergraduate academic achievements or deficiencies, and his prior experience.

When the certification program is undertaken as part of a degree program, the College normally recommends that the certification requirements be fulfilled before degree candidacy is sought. It is possible that some of the required courses taken for certification at the graduate level may be credited to the degree program.

Teacher Education Programs at West Chester

Elementary Education
Secondary Education in the Fields Listed Below
Kindergarten-through-12th-Grade Programs in
Health and Physical Education
Music Education
Speech Pathology and Audiology*

Approved Secondary Fields at West Chester

Field	*Required Sem. Hrs.*		
Biology	39	History	36
Chemistry	41	Latin	30
Comprehensive Science	44	Mathematics	36
Earth and Space Science	44	Physics	40
English	42**	Russian***	30
French	30	Comprehensive Social Studies	48
Geography	30	Spanish	30
German	30	Speech and Theatre	34

SAMPLE PROGRAM IN SECONDARY EDUCATION

I Requirements in the Specialization

Normally, candidates for certification in a secondary field enter the certification program with an undergraduate major in their desired teaching field. The semester hours required for available fields are given above.

II Professional Education

A. A course in the history and foundations of education; a discussion of education as it relates to American culture.
B. A course in Psychology of Learning and Development. (Undergraduate credit only.) An undergraduate course in general psychology is prerequisite.
C. One course relating to the secondary school curriculum or to the junior high school.
D. A course in the method of teaching the academic subject — for example, Modern Techniques for the Teaching of English.

III Internship — 12 Semester Hours

The Intern Semester provides for on-the-job supervision by a College supervisor. The internship is related to student teaching but the candidate, though working closely with a College supervisor, is teaching in his own classroom as a salaried professional. The intern works in a public school in Pennsylvania within a 20-mile radius of West Chester State College. Before a district is selected, the College must approve the choice.

*West Chester has no graduate program in speech pathology and audiology. Certification may be obtained only through study at the undergraduate level.
**Including the required six semester hours of a foreign language at the intermediate level.
***West Chester has no graduate program in Russian. Certification may be obtained only through study at the undergraduate level.

ELEMENTARY EDUCATION INTERN PROGRAMS

I *PROVISIONAL CERTIFICATION (NON-DEGREE PROGRAM)*

Semester Hours

A. **Course Work** (minimum) 24

See undergraduate catalogue for description of courses numbered below the 500 level.

1. A course in the history and foundations of education (EdF 100 **or** EdF 510) 3
2. A course in educational psychology (EdP 250) 3
   [Prerequisite: a course in general psychology]
3. A course in child development and behavior (EdP 251 **or** EdE 551) 3
4. A course in the language arts incorporating the teaching of reading and of oral and written expression (EdE 309, or, by permission of the department chairman, EdE 317 and EdE 319) 6
5. A course in the teaching of modern mathematics in the elementary grades (Mat 351 **or** Mat 555) 3
6. Courses in the methods and materials of teaching (a minimum of one course in each group shown below, chosen under advisement) 6

Group A

EdE 530 (2)	Sci 250 (3)
HEd 350 (3)	Sci 520 (3)
PhS 595 (3)	SSc 332 (3)

Group B

Art 202 (3)	Mus 251 (3)
Art 500 (2)	Mus 252 (3)
EdE 543 (2)	Mus 505 (2)
Lit 350 (3)	Mus 506 (2)
Lit 550 (2)	Mus 507 (2)

B. **Intern Teaching** (undergraduate credit) 12

(See III—Internship under "Sample in Secondary Education," above)

II *MASTER'S DEGREE AND PROVISIONAL CERTIFICATION*

A. COURSE WORK

1. **Undergraduate** 9

   EdP 250 Psychology of Learning and Development (3)
   EdE 309 Language Arts (6)

2. **Graduate** 34

   Refer to M.Ed. program under Elementary Education (Area I, Area II—B, and Area III)

B. INTERN TEACHING (UNDERGRADUATE CREDIT) 12

(See III—Internship under "Sample in Secondary Education," above)

COURSE DESCRIPTIONS

ANTHROPOLOGY See Sociology and Anthropology

Art

(For Elementary Education Majors)

Art 500 **Art education in the elementary school (2)**
Curriculum, methods, and materials for teaching art in the elementary school. Emphasis is on contemporary philosophy of art education.

(Open to All Curricula)

Art 511 **Sculpture (3)**
Individual creative expression stressed in three-dimensional design. Students work in wood, clay, plaster, certain metals, and other media.

Art 512 **Painting (3)**
Individual expression in painting and compositional elements are considered. Experimentation is encouraged and is vital to the course.

Art 513 **Ceramics (3)**
The materials, techniques, and processes involved in ceramics are learned through individual experimentation with the plastic character of clay. The student is introduced to the various methods of construction and to clay bodies, glazes, textures, and kiln firing. Design is treated as an outgrowth of the ceramic process.

Biology

Bio 501 **Introductory biochemistry for teachers (3)**
Background for teaching biology in the secondary school. Elements of organic chemistry, solutions, buffers, enzyme action, the structure and metabolism of biological compounds. Some illustrative laboratory exercises. **Prerequisite:** college biology.

Bio 503 **Modern techniques of teaching biology (2)**
Recent methods for teaching biology. Changing emphasis on the various levels of biological organization; preparation for and presentation of laboratory experience.

Bio 510 Field ecology and natural history (3)
Field work in ecology and natural history for the teacher. Basic environmental processes and concepts. Lectures and demonstrations included. **Prerequisite:** permission of department.

Bio 511 Systematic botany (3)
Concepts and principles of taxonomy and biosystematics. Selected plant families from tropical and temperate zones. Each student develops proficiency in the use of a modern flora and knowledge of the common species of one spring flora of Chester County. **Prerequisite:** college botany or permission of instructor.

Bio 512 Plant growth and development (3)
Factors controlling plant growth and development, against a background of plant physiology. **Prerequisite:** college botany, general chemistry, or permission of instructor.

Bio 513 Limnology (3)
Physical, chemical, and geological features of the freshwater environment in the biology of freshwater algae. **Prerequisite:** college botany, general ecology.

Bio 514 Plant pests and diseases (3)
Parasitism and pathogenic activity of organisms which produce infectious diseases of turf, agricultural crops, ornamental plantings, and flowers. **Prerequisite:** college botany or permission of instructor.

Bio 516 Physiology of plants (3)
Plant-cell physiology including respiration, photosynthesis, enzyme catalysis, auxins, membrane phenomena. **Prerequisite:** college botany, organic chemistry.

Bio 517 Advanced plant anatomy and morphology (3)
Macroscopic and microscopic structure of plants and plant parts. **Prerequisite:** college botany or permission of instructor.

Bio 522 Ecology for teachers (3)
Four basic ecosystems—the aquatic, forest, field, and urban—studied in the field. Sampling methods and interpretation of data. Identification of common plants, animals, soil types. **Prerequisite:** college biology or permission of instructor.

Bio 524 Experimental biology (3)
A lecture and laboratory course designed to give the student insight into the experimental approach to biology. Discussions and illustrative laboratory exercises include such topics as: measurement, instrumentation, and experimental design. **Prerequisite:** a completed concentration in biological science.

Bio 525 Experimental physiology for teachers (3)
Fundamental physiological processes in microscopic animals and plants. **Prerequisite:** general zoology and general botany or college biology.

Bio 526 Biochemistry I (3)
Chemistry of carbohydrates, fats, proteins, and phosphorus compounds. **Prerequisite:** inorganic chemistry, one semester of organic chemistry.

Bio 527 Biochemistry II (3)
Continuation of Bio 526: bioenergetics; enzymology; metabolism of carbohydrates, fats, proteins. **Prerequisite:** Bio 526 or equivalent.

Bio 528 Comparative physiology and biochemistry (3)
Comparative physiology and related biochemistry of selected classes of vertebrates. **Prerequisite:** organic chemistry, general or mammalian physiology, or permission of instructor.

Bio 530 Genetic theory (3)
Theory of mutation of genes; chromosomal mappings; chromosomal abnormalities; principles of dominance and recessiveness; multiple factors; lethal factors; the nature of DNA. **Prerequisite:** college biology or general zoology and general botany.

Bio 532 Experimental genetics (3)
Inheritance from the viewpoint of cellular biology; modern concepts of the structure and chemistry of chromosomes; nature of genes. **Prerequisite:** Bio 530, permission of instructor.

Bio 534 Advanced embryology (3)
Vertebrate embryonic development; current research and experimental techniques. **Prerequisite:** embryology, general chemistry, or permission of instructor.

Bio 538 Systematic zoology (3)
Principles and procedures governing the classification of animals. **Prerequisite:** college biology.

Bio 539 Insect morphology (3)
Structure of insects; variations of form in the principal orders. **Prerequisite:** college biology.

Bio 540 Applied ecology (3)
Principles of ecology applied in the practice of resource management. Areas covered include: forestry, wildlife management, park management, agricultural planning, urban planning. **Prerequisite:** Bio 522 or equivalent.

Bio 541 Economic entomology (3)
Beneficial and deleterious influences exerted by insects upon man's welfare. **Prerequisite:** college biology.

Bio 542 Animal ecology (3)
Interrelationships of organisms and the environment, including physical and biological factors. **Prerequisite:** general zoology or college biology.

Bio 543 **Freshwater invertebrates (3)**
Morphology, taxonomy, and bionomics of our local freshwater invertebrates. **Prerequisite:** college biology.

Bio 545 **Developmental anatomy (3)**
Anatomy of human reproductive systems and fundamentals of human development. **Prerequisite:** a background in anatomy, physiology, embryology.

Bio 546 **Microtechnique I (3)**
Modern histological and histochemical techniques. **Prerequisite:** college biology, general chemistry, or permission of instructor.

Bio 547 **Microtechnique II (3)**
Continuation of Bio 546. **Prerequisite:** Bio 546 or permission of instructor.

Bio 550 **Human ecology (3)**
The urban ecosystem, approached through a study of the major biotic and abiotic components of a local urban community. Problems of urban and regional planning and action. **Prerequisite:** college biology, ecology, or permission of instructor.

Bio 561 **Human heredity (3)**
The innate qualities of human beings and the genetic basis for these qualities. **Prerequisite:** general genetics or permission of instructor.

Bio 571 **Advanced bacteriology (3)**
Bacteriological structure and metabolism with emphasis upon laboratory techniques. Advances as described in current literature. **Prerequisite:** bacteriology, organic chemistry.

Bio 573 **Animal histology (3)**
Structure and function of animal tissues and organs. **Prerequisite:** college biology or zoology.

Bio 575 **Morphology of fungi (3)**
Form and structure of fungi, considered against a background of fungal taxonomy. **Prerequisite:** college botany or permission of instructor.

Bio 576 **Physiology of fungi (3)**
Physiological activities of fungi. **Prerequisite:** college botany, organic chemistry, or permission of instructor.

Bio 591 **History of biology (3)**
Great discoveries in biology and related fields from Theophrastus to the present, and economic changes resulting from these discoveries. **Prerequisite:** general zoology, general botany.

Bio 596 **Independent study in biological science for elementary teachers (1–3)**
Proposed research project must be approved by the supervising faculty member prior to registration.

Bio 599 **Seminar (2)**
Presentation of written and oral reports on topics of current interest in biology. **Prerequisite:** permission of department.

Bio 600 **Research report (1-2)**

Bio 610 **Thesis (3 or 6)**

Chemistry

Note: **Unless prerequisites are specifically given, the following are prerequisite to all courses listed below: 1 year each of undergraduate general chemistry, organic chemistry, analytical chemistry, and physical chemistry.**

Che 501 **History and philosophy of chemistry (2)**
Development of chemical theories; rise of the experimental method; impact of major chemical discoveries on modern man.

Che 502 **Modern trends in teaching chemistry (2)**
Modern techniques for teaching fundamental theories and laws of chemistry. Audio-visual equipment, laboratory demonstrations, atomic and molecular models; instrumental techniques.

Che 503 **Chemical literature (1)**
Use of published materials in chemical work. Library techniques; methods of information retrieval.

Che 511 **Advanced inorganic chemistry (3)**
Structure and properties of the elements and their compounds from a theoretical point of view; horizontal, vertical, and diagonal relationships in the periodic table.

Che 513 **Principles of geochemistry (3)**
Migration and distribution of the chemical elements within the earth; chemistry of the lithosphere, atmosphere, hydrosphere, and biosphere; chemical changes throughout earth history; the geochemical cycle.

Che 515 **Inorganic preparations (2)**
A laboratory course in advanced techniques for the synthesis of inorganic compounds.

Che 521 **Advanced analytical chemistry (3)**
Analytical methods and techniques; theory and application of chemical instrumentation.

Che 522 **Instrumental methods of analysis (3)**
Theory and application of modern instrumentation in analytical chemistry; laboratory work included.

Che 531 **Organic reaction mechanisms (3)**
Theoretical treatment of selected organic reactions. Emphasis on bonding theory, structural relationships, equilibria, and free-energy relationships.

Che 532 **Synthetic organic chemistry (3)**
Discussion of selected topics in synthetic organic chemistry.

Che 534 **Chemistry of heterocyclic compounds (3)**
Preparation and properties of heterocyclic compounds containing oxygen, nitrogen, sulfur, and phosphorus.

Che 535 **Qualitative organic analysis (3)**
Identification of pure organic compounds and mixtures of organic compounds, using classical and modern instrumental techniques. Laboratory included.

Che 540 **Advanced physical chemistry (3)**
Thermodynamics of solutions, kinetics of reactions, and the relationship of molecular structure to physical properties.

Che 541 **Selected topics in physical chemistry (3)**
Designed for chemistry teachers who have had no background in physical chemistry. Includes chemical thermodynamics, chemical kinetics, electrochemistry, and chemical equilibrium. **Prerequisite:** integral calculus, general chemistry, general physics.

Che 545 **Chemical thermodynamics (2)**
Laws and functions of thermodynamics and their applications: introduction to statistical thermodynamics.

Che 551 **Chemistry of coordination compounds (3)**
Principles of complex formation; application of the crystal field theory, various complexing agents, and chemical implications of coordinated compounds. **Prerequisite:** Che 511.

Che 561 **Nuclear and radiochemistry (3)**
Nuclear reactions, emissions of various particles, radio chemical applications.

Che 563 **Electrochemistry (3)**
Principles of electrochemical systems and galvanic cells; electrolytic applications in instrumentation and research. **Prerequisite:** Che 511.

Che 571 **Polymer chemistry (3)**
Polymerization kinetics, rheology of polymer melts, crystallization parameters, and monomer reactivity in copolymerization.

Che 573 **Biochemistry of proteins and nucleic acids (3)**
Molecular biology, physico-chemical methods for bio-macromolecules, enzymes, and the molecular basis for physiological phenomena.

Che 574 **Biochemistry of carbohydrates and lipids (3)**
The chemistry of carbohydrates and lipids. Intermediary metabolism and bioenergetics. The chemistry of nutrition and hormone action.

Che 581 **Research Report (2)**

Che 591 **Seminar (1-2)**
Topics of current interest in chemistry.

Che 610 **Research and thesis *(variable credit)***
An original investigation in a specific area under the direction of a staff member. May be taken for 2 credits or more per semester.

COMPUTER SCIENCE See Mathematics

Economics

Eco 530 **Economics and public policy (3)**
The principles and methods of economic analysis are applied to an evaluation of the American economic system. Inflation, recession, and economic growth; problems of public finance and taxation; public policy regarding the concentration of economic power.

Eco 531 **Comparative economic systems (3)**
Essential economic features of economic systems, including capitalism, democratic socialism, dictatorial socialism, communism, and fascism.

Eco 532 **History of economic thought (3)**
The growth and development of contemporary economic thought from Plato to the present, with emphasis on the mercantilist, classical, marginalist, and Keynesian schools.

Eco 533 **Teaching economics in secondary schools (2)**
Basic principles of economic reasoning and analysis and methods for teaching these principles. Teaching materials and aids are evaluated.

Eco 550 **Seminar in economics (2)**
Selected problems in economics. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500.

Education

Educational Media
Audio-Visual Education

EdM 501 **Orientation to educational media (3)**
A survey of modern educational media with opportunities for laboratory activities.

EdM 501 or its equivalent is prerequisite to all of the EdM (Educational Media) courses which follow.

EdM 502 **Selection and effective utilization of educational media (2)**
An advanced course which evaluates diverse types of educational media and explores means of integrating these media into the instructional situation.

EdM 505 **The motion picture in education (2)**
History and development of the motion picture, with emphasis on educational motion pictures. Cinematographic techniques; the impact of 35 mm., 16mm., and 8 mm.; the single-concept instructional film. An evaluation of diverse types of films as they apply to types of learning.

EdM 508 **Audio-visual materials in the elementary school curriculum (2)**
Practice in techniques of using and evaluating communications media in the classroom. Correlating audio-visual materials and techniques with the elementary program.

EdM 509 **Audio-visual materials in the secondary school (2)**
Using instructional materials in the secondary school; their expanding role; prospects for their contribution to organizational, philosophical, and pedagogical changes in the future.

EdM 511 **Programmed instruction and teaching machines (3)**
Program writing is stressed in this workshop-type course covering the history and pyschology of programmed instruction. Trends in programmed instruction; program evaluation; programming techniques. **Also prerequisite:** general psychology.

EdM 519 **Library science (2)**
Organization and administration of libraries, with emphasis on instructional materials. Selecting, cataloguing, and evaluating instructional materials.

EdM 521 **The production of non-projected materials (3)**
Teacher-made instructional materials; experience and techniques in designing, lettering, enhancing, mounting, displaying, and evaluating graphics and flat pictures.

EdM 523 **The production of projected still materials (3)**
Techniques for the production of handmade projection materials, particularly for the overhead projector. Designing, lettering, producing, and evaluating teacher-made and commercial transparencies.

EdM 525 **Photography for teachers (3)**
A basic laboratory course in the taking and processing of still pictures.

EdM 533 **Television in education for teachers (3)**
The development of educational television and the instructional use of commercial, educational, and closed–circuit television in the classroom.

EdM 552 **History and philosophy of educational media (2)**
Historical development of audio–visual instruction. The philosophy underlying the combined use of sight and sound in the teaching–learning process.

EdM 555 **Learning theories related to educational media (2)**
The role of perception in sensory experience; inner cognitive processes in relation to maturation, goals and drives, types of learning, and to environment. Psychological processes are related to the learning resources provided by educational media.

EdM 560 **Organization and administration of the audio-visual program (2)**
The function of the school's educational-media program; selection and evaluation of materials and equipment; unit costs; problems of developing and maintaining an efficient operation. **Prerequisite:** 12 graduate credits in educational media.

EdM 565 **Seminar in instructional materials (2)**
Explores current problems in the use of instructional media. **Prerequisite:** 12 graduate credits in educational media.

EdM 590 **Internship program in educational media (2)**
Practicum in supervising and implementing instructional services. **Prerequisite:** 18 credits in educational media.

EdM 591 **Seminar in research in communications (2)**
Basic elements of communication theory, applied to audio–visual education. Research in audio–visual communication is analyzed. **Prerequisite:** 18 credits in educational media.

EdM 600 **Research Report (2)**

Elementary Education

EdE 501 **Introduction to graduate study in elementary education (2)**
A survey course designed to develop the skills and background knowledge needed for graduate study in elementary education. Should be taken early in the program; must be completed before applying for admission to degree candidacy.

EdE 505 **The teacher in the elementary school (2)**
An introductory survey dealing with the role of the elementary teacher and with the content and organization of the elementary curriculum. A course for those whose undergraduate major was **not** elementary education. Not open, except by departmental permission, to students whose undergraduate major was elementary education.

EdE 522 **Teaching the communication skills (2)**
The teaching of oral and written language (listening, speaking, and writing): content, methods, materials, and organization. **Prerequisite:** a recent basic course in language arts (including reading) or departmental approval.

EdE 525 **Curriculum and research in the language arts (2)**
A survey of the language needs of elementary school children and a review of current research in language arts; planning the curriculum in terms of both these areas. **Prerequisite:** EdR 510 and EdE 522 or equivalents and teaching experience in the elementary school.

EdE 530 **Social studies in elementary education (2)**
A basic course in the teaching of social studies, dealing with content, materials, and methods (including the unit approach). Designed for those whose undergraduate major was **not** elementary education. **Prerequisite:** EdR 510 or equivalent.

EdE 532 **Curriculum and research in social studies (2)**
Curriculum planning; modern teaching methods; instructional materials; recent research and its application in the classroom; use of maps and globes. **Prerequisite:** educational psychology and EdR 514.

EdE 541 **Unit teaching in the elementary school (2)**
An intensive study of the unit method of teaching and the integrated curriculum, with emphasis on the content fields. **Prerequisite:** a recent course in the teaching of science, social studies, or health in the elementary school.

EdE 543 **Creative expression in the elementary school (2)**
Theory and practice in developing the child's interests and creative abilities in art, music, language, and literature. **Prerequisite:** undergraduate major in elementary education or all required courses under B, Area of Concentration.

EdE 545 **The kindergarten-primary program (2)**
An advanced course covering content, principles, procedures, and materials in kindergarten and the primary grades. **Prerequisite:** teaching experience in the elementary school.

EdE 547 **Elementary school curriculum (2)**
Current trends and basic problems in the elementary school curriculum; practical creative projects and investigations dealing with actual teaching situations. Should be taken during last six credits of work. **Prerequisite:** all required courses in degree program or departmental approval.

EdE 551 **Child development and behavior I (3)**
A basic course dealing with child development and behavior from birth to adolescence, with specific application to elementary edu-

cation. Designed for students with no recent undergraduate course in child development. **Prerequisite:** general psychology and educational psychology.

EdE 553 Child development and behavior II (3)
A review of principles of growth and development; theories of behavior and personality development; and clues to identifying children with problems. Case studies of elementary school children are read and discussed. **Prerequisite:** a recent basic course in child development (EdE 551 or equivalent).

EdE 560 Meeting individual needs of children (2)
An advanced course concerned with methods and materials for individualizing instruction in the subject and skill areas and with meeting individual needs in personal adjustment. **Prerequisite:** Undergraduate major in elementary education or all required courses under B, Area of Concentration.

EdE 561 Guidance in the elementary school (3)
Focuses on the positive and preventive aspects of guidance, the roles of the classroom teacher and the guidance counselor, and the cooperative approach in promoting each child's growth. Designed for elementary education majors; open to others by departmental permission. **Prerequisite:** experience and/or course background in elementary education and a recent basic course in child development.

EdE 563 Evaluation in the elementary school (2)
The diagnostic approach in evaluating the various aspects of children's growth; informal and formal methods of evaluation. **Prerequisite:** undergraduate major in elementary education (including child development) or all required courses under B, Area of Concentration.

EdE 565 Effective classroom management (2)
The teacher's role in planning and managing activities which facilitate classroom instruction and learning. Includes planning and scheduling of learning activities, caring for class routines, insuring availability of instructional materials, and efficient utilization of school time. **Prerequisite:** undergraduate major in elementary education or all required courses under B, Area of Concentration.

EdE 570 Supervision in the elementary classroom (2)
Basic concepts and practices involved in working with teachers and student teachers toward the improvement of instruction. Designed primarily for teachers with some supervisory responsibility (e.g., team leaders, cooperating teachers). **Prerequisite:** departmental approval.

EdE 600 Research Report (1)

EdE 610 Thesis (3)

Guidance and Counseling

EdC 503 **Principles and techniques of guidance (2)**
Historical development, philosophical foundations, and determinants of guidance in contemporary elementary and secondary education. The interdisciplinary foundations of guidance, including its relationship to education and the contributions of the behavioral sciences. Special services, testing, group and individual guidance and counseling, and other tools. Guidance as a profession; current trends. **Prerequisite:** EdF 500, Psy 501 or equivalents.

EdC 540 **Evaluative methods in guidance (3)**
A general course geared for those planning to do guidance at either the elementary or secondary level. Emphasis is on the assessment of intelligence, personality, and special abilities. Measurement concepts, such as reliability, validity, and standardization, are dealt with. **Prerequisite:** EdF 500, EdC 503 or equivalents, or permission of Coordinator.

EdC 556 **Occupational, educational, and social information in guidance (2)**
Current research and theory in vocational development, applied to the pursuit of competencies in counseling and information service. Decision making; collecting, filing, and using occupational, educational, and social information. **Prerequisite:** for secondary school guidance counselors, EdC 503 or equivalent. Open to others by permission only.

EdC 562 **Organization and administration of the guidance program (2)**
Recent trends and issues in the development and improvement of new and existing pupil personnel programs and guidance services. Current literature in this area of guidance and counseling. **Prerequisite:** EdC 503 or equivalent.

EdC 564 **Homeroom guidance (2)**
The guidance function of the homeroom teacher, particularly in the secondary school. **Prerequisite:** educational psychology and an introductory course in guidance. (Not for degree credit to candidates in the Guidance and Counseling Program.)

EdC 567 **Group dynamics (2)**
Group dynamics in group work with students; the interactional processes in intra-group situations, especially in the school; role of the group leader. Opportunity for participation in group thinking and group behavior; evaluation of the performance of groups.

EdC 568 **The professional counselor in the elementary school (3)**
All aspects of the professional, administrative, and communicative functions of the counselor in the elementary school. Developmental psychology and mental hygiene, applied to prevention and early identification of children's educational, personal, and social problems. Understanding newer concepts of vocational development theory and their application to elementary children. Proper roles of the classroom teacher, parents, and the professional guidance counselor. Research methods, current research, trends.

EdC 570 **Principles and techniques of counseling (2)**
A study of counseling technique, theory, and practice for those anticipating a career as professional counselors. Client-centered, nondirective, and eclectic approaches, distinguished from psychotherapy. Use of counseling tapes and observations; opportunities for supervised practice in counseling. **Prerequisite:** all Group I courses and three required courses from Group II, or approval of instructor.

EdC 573 **Advanced theory and methods of counseling (2)**
The improvement of counseling practice; professional and ethical responsibility to the counselee, his parents, and to institutional personnel. Typical cases, using counseling transcripts of sessions with children and youth on education, adjustment, and career matters. Open, with adviser's approval, to advanced counseling candidates. Also open to practicing counselors. **Prerequisite:** EdC 570 or equivalent.

EdC 590 **Practicum in guidance and counseling (3)**
Supervised practice counseling in an approved public school. The candidate must plan this experience with his adviser at least one semester in advance. Open only to candidates in good standing who anticipate serving as full-time counselors in public schools within the Commonwealth. The practicum normally takes places in the final term.

EdC 600 **Research Report (1)**

EdC 610 **Thesis (3)**

Reading

EdR 510 **Foundations of reading instruction (3)**
The major areas of the reading field: reading skills development, evaluation of reading needs, and implications of the psychological processes involved. **Prerequisite:** a recent basic course in language arts (including reading) or adviser's approval.

EdR 514 **Reading in the content areas (3)**
The teaching of reading in the various content fields: reading in the school program, problems in reading curricular materials, meeting needs in different curriculum areas, general and specific reading skills, study methods, critical reading, adjustment to individual differences. **Prerequisite:** EdR 510 or adviser's approval.

EdR 516 **Reading disabilities (2)**
Individual and group procedures for diagnosis and instruction; classification of types of problems; different approaches in instruction; writing a report. **Prerequisite:** EdR 510 or adviser's approval.

EdR 521 **Practicum: introduction to diagnostic techniques (3)**
Study of the causative factors in reading disabilities. A laboratory course emphasizing formal and informal techniques of diagnosis and recommendations for future referral and treatment. **Prerequisite:** EdR 510 or adviser's approval.

EdR 522 **Practicum: advanced diagnostic techniques (3)**
The diagnosis and classification of reading disabilities. An advanced, more intensive laboratory course. Emphasis on formal and informal techniques and on psychological testing and theory. Use of results in diagnosis, and prescription through written reports. **Prerequisite:** EdR 521.

Secondary Education and Professional Studies

EdF 500 **Methods and materials of research in education (2)**
Historical, descriptive, and experimental methods of research. Methods for locating, evaluating, interpreting, and reporting research data. Each student prepares a research prospectus.

EdS 502 **Secondary school curriculum (2)**
Current practices and trends in reorganizing the secondary school curriculum in the major academic areas. The various integrating techniques are emphasized. Attention is given to curriculum development.

EdF 504 **Middle school workshop (4)**
A workship dealing with the philosophy, administration, curriculum, staff, and facilities necessary for the most efficient educational experience in the intermediate levels of school. **Summers, on demand.**

EdS 506 **The junior high school (2)**
The development and function of the junior high school; the philosophy underlying its development. Curriculum, teaching assignments, characteristics of pupils, and special problems. **Prerequisite:** a course in adolescent development.

EdS 508 **The core curriculum (2)**
Theory and philosophy of the core curriculum. Specific core programs in secondary schools are evaluated.

EdF 509 Contemporary teaching trends (2)
Team teaching, programmed instruction, and various media of communication are evaluated in this study of contemporary trends and practices in teaching in the elementary and secondary school. Effective adaptation to newer practices is emphasized.

EdF 510 Educational foundations (3)
The history of education, integrated with educational philosophy and thought; the long evolution of educational theory and issues.

EdF 520 Comparative education (3)
Major problems of education in a number of other countries are related to similar problems in the United States. Contrasting purposes and philosophies and differences in organization and administration are analyzed.

EdS 524 Supervision of student teaching (3)
Designed especially for teachers who cooperate or expect to cooperate in West Chester's student teaching program. Basic principles, practices, materials, and resources for an effective student teaching program. **Prerequisite:** certification for teaching.

EdF 525 The teacher and administrative leadership (2)
The relationship of the classroom teacher with other school personnel; the teacher's part in the administrative structure; maintaining an effective participatory or leadership role in the school community.

EdF 528 Creative teaching (2)
The nature and conditions associated with creativity; skills and techniques which develop the creative potential of the learner. **Prerequisite:** a course in educational psychology.

EdP 550 Advanced educational psychology (3)
The processes by which skills, understanding, concepts, and ideals are acquired; teaching practices in relation to basic research concerning learning; similarities and differences in theories of learning. **Prerequisite:** a course in educational psychology, EdF 500.

EdS 566 The activity program in the secondary school (2)
Effective practices for organizing and administering the activity program in the secondary school. The teacher's function in the homeroom, study halls, interest clubs, assemblies, student government, school publications, and additional extracurricular areas.

EdF 580 History and philosophy of education (3)
Individual and group research is employed to study the historic background and development of education. Influences which diverse philosophies have had on educational practices in a democratic social order. **Prerequisite:** EdF 500, EdF 510.

EdF 590 **School law (2)**
The legal structure for educational organization on state, intermediate, and local levels. The legal status of the board of education; the legal responsibilities of the teacher; the legal responsibilties between the board of education and the student.

Special Education

EdA 540 **Workshop in special education (4)**
An intensive program of observation and instruction of mentally retarded or physically handicapped children. Instructional experience with an atypical child is combined with lecture, demonstration, and case study. Primarily for in-service teachers. **Prerequisite:** permission of instructor.

EdA 570 **Psychology of the mentally atypical child (2)**
A study of the mentally superior child and the mentally retarded child. **Prerequisite:** general psychology and educational psychology.

EdA 571 **Psychology of the child with learning disabilities (2)**
The study and education of the child with perceptual problems and/or minimal brain damage. **Prerequisite:** a course or courses in the psychology of exceptional children.

Urban Education

EdU 501 **Curricular adaptations for the culturally disadvantaged (3)**
Curricular innovations which attempt to aid the culturally disadvantaged in developing skills necessary for maximal personal adjustment to society. Spokesmen from appropriate industrial and school programs serve as resources for some sessions.

EdU 502 **Human relations and the community (3)**
An intensive study of the inner-city community and its close relationship with the school society. Community experiences are simulated in the classroom and professional community workers present data from their firsthand experiences.

ELEMENTARY EDUCATION See Education

English

Eng 500 **Methods and materials of research (2)**
Basic techniques and procedures in research. The major types of research and the methods of locating, evaluating, and interpreting evidence. Includes the preparation of a research outline and paper.

Eng 501 **Modern techniques for the teaching of English (2)**
Techniques of teaching language arts, composition, and literature in the secondary school. Practice in planning and designing units and courses of study.

Eng 502 **History of the English language (2)**
Basic influences on the structure and nature of the English language as it is used today. **Prerequisite:** one course in language structure and usage.

Eng 503 **Old English language and literature (2)**
The grammar, syntax, and vocabulary of Old English. **Appollonius of Tyre** and other prose chosen from the gospels, chronicles, and homilies. Elegiac, heroic, secular, and religious poetry.

Eng 504 **Linguistics for the elementary school (2)**
Modern linguistic developments applied to the elementary school.

Eng 505 **Linguistics for the secondary school (2)**
Modern linguistic developments applied to teaching English in the secondary school. Transformational, generative concepts.

Lit 511 **English literary criticism [1800 to present] (2)**
Critical dicta which have influenced the course of English literature since 1800. Special consideration given to Coleridge, Hazlitt, Ruskin, Arnold, and others. **Prerequisite:** one college course in English literature.

Lit 512 **American literary criticism [1800 to present] (2)**
Critical dicta which have influenced the course of American literature since 1800. Poe, Whitman, Howells, and the New England writers. **Prerequisite:** one college course in American literature.

Lit 514 **American literary movements (2)**
Major movements in the development of American literature. Influence of leading writers on literary concepts, trends, and critical dicta. **Prerequisite:** one college course in American literature.

Lit 515 **Comparative literature—Romantic movements (2)**
Similarities and differences in Romantic trends and movements in Europe and America. Knowledge of foreign languages not required.

Lit 516 **Major twentieth century American poets (2)**
Robinson, Frost, Pound, Eliot, Crane, Stevens, Cummings, Williams, and others. Critical standards and theories of poetry in the century.

Lit 517 **Literary spokesmen for American ideas (2)**
Intensive study of American writers who have depicted and interpreted major intellectual currents in American culture. Modern writers who deal with problems of American life.

Lit 520 Nineteenth century novel (2)
Scott, Peacock, Disraeli, Gaskell, Thackeray, Dickens, Reade, Trollope, the Brontes, Eliot, Meredith, Stevenson, Kipling, Carroll, Hardy, Gissing, Moore, Wilde, Butler, Shaw, Conrad, and others.

Lit 521 English literature to Chaucer (2)
Significant figures in English literature beginning with the Old English Period and closing with the Pearl Poet.

Lit 522 Chaucer (2)
Life and works of Chaucer.

Lit 523 Eighteenth century novel (2)
Master works of prose fiction in England from Defoe to the end of the century. Development of the various types of novels. Philosophies of the major authors.

Lit 524 British and continental short story (2)
The short-story form: its origin and development. Current trends. Influences of German, French, and Russian writers upon the British form.

Lit 525 Biography (2)
Survey of biographical writings from Plutarch to the present. Origins and trends; Boswell and other major biographers.

Lit 526 Tudor poetry and prose (2)
Nondramatic literature in England from Wyatt to Jonson. The interplay of exterior and interior influences in developing England's Golden Age.

Lit 527 Stuart literature to the Commonwealth (2)
Growth of English literature from the accession of James I to 1650. The metaphysical school, the sons of Ben, and the political writers.

Lit 528 Milton (2)
The work of John Milton, including major and minor poems and some of the prose.

Lit 529 Victorian prose (2)
Prose writers of the last half of the nineteenth century.

Lit 530 Victorian poetry (2)
Poets of the last half of the nineteenth century, particularly Tennyson, Browning, and Arnold. Literary movements of the period.

Lit 531 Shakespeare's predecessors in drama (2)
Development of the drama from classical antiquity to Shakespeare. The nature, structure, and other aspects of the principal types of pre-Shakespearean drama.

Lit 533 **Romantic prose and poetry (2)**
The poets of the early nineteenth century with emphasis upon Wordsworth, Coleridge, Keats, Shelley, Byron. Literary movements of the time.

Lit 534 **Twain and James (2)**
The works of Mark Twain and Henry James. **Prerequisite:** one college course in American literature.

Lit 535 **Twentieth century American writers (2)**
Major writers and literary movements from 1900 to the present. **Prerequisite:** one college course in American literature.

Lit 536 **Twentieth century drama (2)**
Principal British and American playwrights from Shaw to Pinter and Albee, including an analysis of important plays and trends.

Lit 537 **Emerson and Thoreau (2)**
The works of Emerson and Thoreau; writers associated with them.

Lit 538 **Hawthorne and Melville (2)**
Their works. **Prerequisite:** one college course in American literaature.

Lit 539 **Eighteenth century poetry and prose (2)**
Survey of the literature of the era, with emphasis on aesthetic theory and the evolution of poetic techniques.

Lit 540 **Restoration and eighteenth century drama (2)**
History of British drama from the reopening of the theaters to Sheridan. Major playwrights and study of theater history.

Lit 541 **Greek and Roman literature in translation (2)**
Major dramatic, epic, and lyric works from the classical period; their influences upon English and American literature.

Lit 542 **Spenser (2)**
Spenser's poetic work, with emphasis on **The Faerie Queen** and its influence.

Lit 543 **Shakespeare's comedies and poems (2)**
A study of Shakespeare's comedy and his contribution to the comic tradition. An examination of the sonnets and non-dramatic poetry.

Lit 544 **Shakespeare's tragedies and histories (2)**
A study of Shakespeare's tragedies and histories.

Lit 546 **Shakespearean literary criticism (2)**
A study of critical views of Shakespeare.

Lit 550 **Literature for the elementary school (2)**
The content and approach of the literature program in the elementary school. Designed primarily for elementary school teachers, this course can be pursued profitably by administrators, curriculum specialists, and others interested in this literature.

Lit 551 **Literature for the secondary school (2)**
An examination of the literary interests of the secondary school student and the relation of these interests to the curriculum. A discussion of the works of major writers who appeal to the teen-age student.

Eng 590 **Seminar in English (1 or 2)**
Must be taken at the time thesis is developed. May also be taken for study of a special problem. **Prerequisite:** approval of the Department of English.

Eng 600 **Research Report (2)**

Eng 610 **Thesis (3)**

Foreign Languages

Professional Education

Lan 500 **Methods and materials of research (2)**
Techniques of research in foreign language education, including location, evaluation, and interpretation of data.

Lan 501 **Linguistics (2)**
Introduction to the science of language. History of languages, especially the Indo-European family. Linguistics applied to teaching languages.

Lan 502 **FLES [Foreign Languages in the Elementary School] (2)**
Problems in teaching foreign languages in the elementary school. Teaching materials, techniques. Observation of classes.

Lan 503 **Techniques of language teaching (2)**
Survey and analysis of texts and other materials for teaching foreign languages. Recent methods for the secondary level. Observation of secondary school classes.

Lan 504 **The language laboratory (2)**
Use of the language laboratory in teaching foreign languages.

Lan 500A **Seminar in methods and materials of research (2)**
The principal tools of research in the field of foreign languages and literatures. Methods of conducting and reporting research, emphasizing correctness of form and mechanics of scholarly writing.

French

Fre 511 **Romance philology [French] (2)**
Historical development of French phonology and morphology from their beginnings to the present. Old French dialects.

Fre 512 **Explication de Textes (3)**
This French technique of textual and stylistic analysis is studied and practiced.

Fre 513 **Phonetics (3)**
Mastery of pronunciation and intonation of the French language through use of the phonetic alphabet. Laboratory drill with recordings of leading phoneticians.

Fre 514 **Advanced grammar and stylistics (3)**
A conceptual approach to French grammar. Principles of French grammar and syntax; evaluation of recent changes in grammar and usage.

Fre 515 **French civilization (3)**
French civilization as reflected in its art, music, philosophy, and socio-political structure.

Fre 520 **Rabelais (3)**
Rabelais: critical studies of his life and works.

Fre 521 **Moliere (3)**
The plays of Moliere; his life and times. History of comedy in France.

Fre 522 **Voltaire (3)**
Major works of Voltaire. Analytical scrutiny of his philosophical views. The impact of Voltaire on the character of Western civilization.

Fre 523 **Rousseau (3)**
The works of Rousseau; their philosophical implications and stylistic character. Analysis of the important critical writings on Rousseau.

Fre 524 **Balzac (3)**
The works of Balzac and a review of Balzacian criticism.

Fre 525 **Proust (3)**
Reading and analysis of "A la Recherche du Temps Perdu." Survey of Proustian criticism; Proust the man. His place in the history of the novel.

Fre 530 **French classical tragedy (3)**
The tragedies of Corneille and Racine; the history of tragedy in France.

Fre 531 **The French novel [through the nineteenth century] (3)**
History of the novel in France. The works of the major French novelists of the nineteenth century: Hugo, Stendhal, Balzac, Flaubert, Zola.

Fre 532 **The twentieth century French novel (3)**
The French novel in the twentieth century and the philosophical, social, and aesthetic doctrines which helped to shape this literary form.

Fre 533 **French lyric poetry (3)**
Evolution of French lyric poetry, with stress on the nineteenth century. Forms, techniques, rules of French versification.

Fre 534 **The contemporary French theater (3)**
Principal dramatic works of the twentieth century, analyzed against the history of the theater in France.

Fre 540 **Medieval French literature (3)**
Selected literary masterpieces representing the various medieval genres: lyric poetry, epic, romance, allegory, fabliaux, prose chronicle, and drama.

Fre 541 **French literature of the Renaissance (3)**
Evolution of literary doctrine in the French Renaissance. The influence of various philosophical and aesthetic currents such as Platonism and Petrarchism.

Fre 542 **Studies in the seventeenth century (3)**
Selected writers and their works. The development of literary and aesthetic doctrines of the classical period.

Fre 543 **Studies in the eighteenth century (3)**
Selected masterpieces of the eighteenth century. Evolution of social and political ideas as reflected in the literary activity of the period.

Fre 544 **Studies in the nineteenth century (3)**
Selected writers of the nineteenth century in France along with an examination of the literary doctrines which evolved through the century.

Lan 600 **Research Report (1-2)**

Lan 610 **Thesis (3 or 6)**

German

Lan 500A **Seminar in methods and materials of research (2)**
See under **French** for course description.

Ger 511 **German philology (2)**
German phonology and morphology from their beginnings to the present. The chief characteristics of Gothic, Old Saxon, and Old High German. Analysis of the language of the Low German Heliand and the earliest High German documents.

Ger 513 **Phonetics (3)**
The sounds, forms, and structure of modern standard German, using recorded materials and selected texts.

Ger 514 **Advanced grammar and stylistics (3)**
The stylistic qualities of modern German, analyzed in selected texts. Oral and written drill.

Ger 515 **German civilization (3)**
Social structure of Germany; evolution of its institutions; German achievements in the arts.

Ger 520 **Goethe (3)**
Goethe's works and his development toward classicism. Critical works dealing with his life and writings.

Ger 521 **Schiller (3)**
Schiller's dramatic works and their development toward classicism. Critical works dealing with his life and writings.

Ger 522 **Rilke (3)**
Rilke's poetical works and major critical works which deal with his life and writings.

Ger 523 **George (3)**
George's poetry and major critical works dealing with his life and writings.

Ger 524 **Thomas Mann (3)**
The novels of Mann; works of criticism dealing with his life and writings.

Ger 525 **Bertolt Brecht**
The theater of Brecht and critical literature dealing with his life and writings.

Ger 526 **Kafka (3)**
The works of Kafka; criticism dealing with his life and writings.

Ger 531 **The twentieth century German novel (3)**
Naturalism and Decadence, Impressionism, Expressionism, the regional and historical novel, the New Matter of Factness, the exotic novel, and the novel of race and soil.

Ger 532 **The Novelle (3)**
The German short story from Goethe to the present, including the German Feuilleton and the post-World War II writers.

Ger 533 **German lyric poetry (3)**
Modern German poetry, with emphasis on George and his circle and Rilke.

Ger 534 **German drama of the nineteenth century (3)**
The works of the major German dramatists of the nineteenth century.

Ger 535 **German drama of the twentieth century (3)**
The works of the major dramatists of the twentieth century with particular attention to expressionism and post-World War II dramatists.

Ger 540 **German literature of the Middle Ages (3)**
German literature of the Middle Ages with emphasis on the Popular and Court Epic and the lyric poetry of the Golden Age.

Ger 541 **Poetry of the Reformation and the Baroque Period (3)**
Literary trends in the Reformation, the Counter-Reformation, and the Baroque Period. The German humanists, Luther, the religious hymn writers of the First Silesian School, and the novelist Grimmelshausen.

Ger 542 **The Enlightenment and Storm and Stress (3)**
The masterpieces of the Enlightenment and Storm and Stress. Attention given to English influences, especially Shakespeare.

Ger 543 **The German Romantics (3)**
Selected writers of the German Romantic period.

Ger 544 **Nineteenth century German realism (3)**
Masterpieces of the German Realists of the nineteenth century.

Ger 545 **The German expressionists (3)**
Major representative poets of the expressionistic movement.

Lan 600 **Research Report (1-2)**

Lan 610 **Thesis (3 or 6)**

Latin

Lan 500A **Seminar in methods and materials of research (2)**
See under **French** for course description.

Lat 511 **Comparative grammar of Greek and Latin (2)**
The relation of Greek to Latin within the Indo-European family of languages. Survey of the external histories of Greek and Latin. Greek and Latin phonology and morphology with references to principles of syntax.

Lat 512 **History of the Latin language (3)**
Development of the Latin language from the earliest inscriptions of the ninth century A.D., with some consideration of the prehistoric language and people of Rome.

Lat 513 **Italic dialects (3)**
The Italic branch of the Indo-European family of languages, exclusive of Latin: Oscan and Umbrian grammar. Italic inscriptions. A brief survey of other dialects.

Lat 514 **Advanced Latin prose composition and translation (3)**
An intensive review of Latin syntax, with translation of English passages into Latin and vice versa.

Lat 520 **Works of Julius Caesar [advanced course] (3)**
The Alexandrine, African, Spanish, Gallic, and Civil Wars, with reference to their political backgrounds.

Lat 521 **Cicero's philosophical essays (3)**
Studies in the **Somnium Scipionis, Tusculan Disputations, De Natura Deorum** and **De Officiis,** with reference to Cicero's political theory and practice.

Lat 525 **Latin metre and verse (3)**
The formal structure and development of Latin verse from its beginnings to the twentieth century. Illustrative readings in early, classical, medieval, and modern Latin poetry.

Lat 526 **Greek and Latin epic (3)**
The Greek epic from Homer to Apollonius of Rhodes and the Latin epic from Naevius to Vergil. Readings from the classical epics.

Lat 527 **Roman historiography (3)**
Selections from the writings of Sallust, Caesar, Livy, Tacitus, and Suetonius. Origins, development, and influence of Roman historiography.

Lat 528 **Roman satire (3)**
History of Roman satire and the development of Lucilian Satire. A comparative study of the satires of Horace, Persius, and Juvenal.

Lat 529 **The Latin novel (3)**
Emergence and development of the Latin novel. Readings in Petronius' **Cena Trimalchionis,** Seneca's **Apocolocyntosis,** the Pompeian Inscriptions, and Apuleius' **Metamorphoses.**

Lat 530 **Medieval Latin literature (3)**
Latin poetry and prose from the fourth to the seventeenth centuries, with emphasis on the acquisition of good reading knowledge of medieval Latin in different periods and styles.

Lat 531 **Latin epigraphy (3)**
Latin inscriptions from the earliest period to the eighth century A.D. A study of the development of the Latin languages.

Lat 532 **Roman archaeology (3)**
The relics of Roman civilization and culture in Italy, Africa, Spain, France, and Britain.

Lat 533 **Historical numismatics (3)**
Greek, Roman, and Near-Eastern coins and medals which document Mediterranean history.

Lat 534 **Geography of ancient Greece and Italy (3)**
Readings in ancient geographers, including Claudius Ptolemy and Strabo, with attention to the latter's method.

Lan 600 **Research Report (1-2)**

Lan 610 **Thesis (3 or 6)**

Spanish

Lan 500A **Seminar in methods and materials of research (2)**
See under **French** for course description.

Spa 510 **Advanced Spanish phonetics (3)**
Theoretical and practical approach to phonology, phonetics, and phonetics transcription. Regional and dialectical variations, using Tomas Navarro Tomas' **Manual de pronunciacion espanola.**

Spa 511 **Romance philology [Spanish] (2)**
The development of Old Spanish from Vulgar Latin and Protoromance, with analysis of Spanish phonology, morphology, and syntax. Readings in Old Spanish.

Spa 512 **Advanced Spanish grammar and stylistics (3)**
An informal rapid review of Spanish grammar, with emphasis on problems fundamental to the American classroom. Exercises include idiomatic expression, various levels of style, and translation.

Spa 514 **Spanish civilization (3)**
Major philosophical and artistic contributions of the Hispanic world to Western civilization. Spain's social and economic institutions, and the character of her people as reflected in the arts.

Spa 520 **Cervantes (3)**
Life and works of Miguel Cervantes Saavedra: **Novelas ejemplares, Ocho comedias y ocho entremeses, La Numancia, La Galatea,** all of which lead to study of the meaning, philosophy, and influence of **Don Quixote.**

Spa 521 **Juan Ruiz, Arcipreste de Hita (3)**
The **Libro de Buen Amor** as a major work in Spain's poetic development.

Spa 522 **Lope de Vega (3)**
The Spanish comedia, viewed as an expression of the Spanish people. The popular and national elements of this theater. Lope de Vega as the chief innovator and leading figure of the first half of the Golden Age.

Spa 523 **Galdos (3)**
Benito Perez Galdos: his novels of social reform, enlightenment and conversion.

Spa 524 **Valera (3)**
Juan Valera's psychological novels, set in nineteenth century Andalusia.

Spa 525 **Unamuno (3)**
The philosophical ideas of Unamuno studied in his critical essays, plays, and novels.

Spa 530 **Spanish Comedia of the Golden Age (3)**
Survey of the "Comedia" before Lope de Vega; the contributions of Lope de Vega; the works of Tirso de Molina and Ruiz de Alarcon, concluding with the Baroque theater of Pedro Calderon de la Barca.

Spa 531 **The Spanish novel before Cervantes (3)**
Survey of the main trends of Spanish prose before Cervantes. The novels of chivalry, **El Conde Lucanor,** and the "novela sentimental."

Spa 532 **The picaresque novel (3)**
The picaresque novel as an indigenous creation of Spain; Lazarillo de Tormes, Guzman de Alfarache, Vida del Buscon; the picaresque novel as a literary tradition in Spain and an influence in other literature.

Spa 533 **The Generation of 1898 (3)**
The revitalizing forces which took hold in the late nineteenth century and a study of the works of Unamuno, Azorin, Menendez Pidal, Pio Baroja, Valle Inclan, Benavente, Martinez Sierra, and Ruben Dario.

Spa 534 **Spanish lyric poetry (3)**
Spanish lyric poetry, with emphasis on early forms, the Renaissance, Italianate forms, and the blossoming of lyric poetry in the nineteenth and twentieth centuries.

Spa 540 **Medieval Spanish literature (3)**
The **mester de juglaria** and the **Poema del Cid;** early related epics and the **mester de clerecia;** Spain's early historical chronicles. Beginnings of the Spanish theater.

Spa 541 **The Renaissance in Spain (3)**
Leading proponents of the humanistic spirit in Spain: Nebrija, Erasmus, the brothers Valdes. The Spanish Inquisition, the Renaissance theater and novel: Juan del Encina, Torres Naharro, and **la Celestina.**

Spa 542 **Spanish Romanticism (3)**
The Spanish Romantics and **costumbristas:** Duque de Rivas, Espronceda, Gomez de Avellaneda, Becquer, Larra, Mesonero Romanos. The dramatic novels of Pardo Bazan, Palacio Valdes, Clarin, and Galdos.

Spa 543 **Contemporary Spanish theater (3)**
The "Ibsenite" and social dramas of the late nineteenth century represented by the plays of Lopez de Ayala, Jose Echegaray, and Galdos. The transition period headed by Martinez Sierra and the brothers Quintero. Spain's modernistic drama exemplified by Federico Garcia Lorca and Alejandro Casona.

Spa 544 **Masterpieces and movements in Spanish literature (3)**
A seminar on the development of Spanish thought and artistic expression through study of selected masterpieces of literature and art.

Spa 545 **The Latin American novel (3)**
The development of the novel in Latin America. The colonial period, the period of independence, the romantic period; realism, modernism, **criollismo,** and naturalism.

Lan 600 **Research Report (1-2)**

Lan 610 **Thesis (3 or 6)**

FRENCH See Foreign Languages

Geography

Geo 500 **Methods and materials of geographic research (2)**
Sources of geographic information and methods of compiling it into reports and geographic writing. An outline for either a thesis or a research report is prepared.

Geo 501 **Advanced geomorphology (3)**
Landform structures and the processes which brought them about. Interpreting landforms in relation to cultural geography with topographic maps and aerial photographs.

Geo 502 **Regional physiography of North America (3)**
A geological analysis of the surface configurations of North America, with emphasis on geographical relationships to these features. **Prerequisite:** introductory geology or geomorphology.

Geo 503 **General climatology (3)**
Meteorological factors influencing climates of the world and their general patterns. Survey of world climates.

Geo 504 **Regional climatology of the continents (3)**
The earth climates are examined on a continental basis, with emphasis on problem climates that deviate from the normal pattern.

Geo 505 **Advanced cartography (3)**
Advanced study of cartographic methods and techniques. Presentation of statistical data in map form. **Prerequisite:** introductory cartography or consent of instructor.

Geo 506 **Advanced physical geography (3)**
Basic aspects of physical geography as they apply to the total geographic concept.

Geo 507 **Advanced map interpretation (3)**
Designed to improve map-reading skills. Emphasis on increased understanding of U.S.G.S. quadrangles and special-purpose statistical maps.

Geo 520 **Problems of economic geography (3)**
Economic situations in our country and the world, with emphasis on major problems of production, surplus, marketing, conflicting national policies, special problem areas. Problems in gathering, presenting, and comparing economic data.

Geo 521 **World economic patterns (3)**
An examination of questions relating to distribution and interaction of world economic activity. A theoretical framework is explored and methodology discussed. Empirical examinations are made.

Geo 522 **Agricultural geography (3)**
Significant factors affecting the agricultural picture of today's world. Major world crops.

Geo 523 **Advanced conservation of natural resources (3-6)**
An economic and geographic appraisal of resource conservation in the United States, with emphasis on resource management in regional planning. The summer offering of this course is sometimes organized into two groups: a workshop and an advanced seminar. The workshop (Course I) studies: Conservation of U. S. Resources. The seminar (Course II) studies: Problems and Research in Resource Management.

Geo 524 **Geography of population (3)**
Characteristics and distributions of the world's population are studied and explained.

Geo 525 **Geography of regional planning (3)**
The significance of regional planning in solving man's problems. Special attention given to regional planning projects in the area.

Geo 526 **Urban geography (3)**
A theoretical foundation for urban development is examined. The economic structure, systems of classification, and shape-point analysis methods for urban analysis.

Geo 527 **Political and global concepts in geography (3)**
Development of world political patterns. Factors affecting present trends in global concepts.

Geo 529 **Geographic influences in world history (3)**
The effect of geographic factors upon selected movements, occurrences, eras, and cultural groups in modern world history.

Geo 540 **Geography of the United States (3)**
A regional study of the United States, emphasizing relationships between physical geography and man's economic and political responses to environmental circumstances.

Geo 541 **Geography of the United States in its world relations (3)**
The interdependence of our country in the world of nations. Changing patterns in the United States in relation to economic, strategic, and political developments in other parts of the world. **Prerequisite:** world geography.

Geo 542 **Geography of Canada (3)**
Physical and cultural regionalism of Canada. The natural resources; patterns of human occupance including agriculture, industry, and transportation.

Geo 543 **Geography of Mexico and Middle America (3)**
A regional geography of Mexico, Central America, and the West Indies. Political divisions and their present-day aspects in relation to geographic conditions. Inter-American affairs are considered.

Geo 544 **Geography of South America (3)**
A regional geography of South America: its physical base, settlement, agriculture, mining, and manufacturing. Inter-American relations are included.

Geo 545 **Geography of Europe [excluding the U.S.S.R.] (3)**
A regional study of Europe. The influence of environmental factors such as climate, landforms, and soils on the economic, social, and political progress of Europe's nations.

Geo 546 **Geography of the Soviet Union (3)**
European and Asiatic U.S.S.R. and its satellite nations. Elements of the environment and regional divisions studied in relation to the resource base and economic and political aims. Positive and negative factors of the U.S.S.R.

Geo 547 **Geography of Asia [excluding the U.S.S.R.] (3)**
Physical and cultural aspects of the geography of contemporaneous East Asia and Southwest Asia, including the Monsoon Realm.

Geo 549 **Geography of Africa (3)**
Survey of the continent as a whole and analysis of the major problems faced by the newly created African nations.

Geo 580 **Seminar in geography in education (2)**
The changing role and function of geographic education in American schools. The relationship of geographic study to other curricular elements.

Geo 581 **Seminar in modern philosophy of geography (2)**
Modern geographic thought, with emphasis on contributions of American geographers and their most recent views.

Geo 582 **Seminar in geographical writing and literature (2)**
The geographic literature of various periods in the development of geographic thought and research. Experience in writing, analysis, research.

Geo 584 **Modern techniques of teaching geography (3)**
Contemporary methods and resources for the formulation, organization, presentation, and evaluation of geography lessons.

Geo 585 **Geography field methods (3)**
An advanced field course which includes both urban and land-use studies. Field methods, mapping, and the translation of field-study findings into geographical reports.

Geo 586 **Area field studies [I, II, and III] (3 to 9)**
A specific geographic region or area in either the United States or a foreign country is selected for field study.

Geo 587 **Geography workshop for teachers (3)**
A combination of research, field work, teaching procedures, and group studies in one or several phases of geography.

Geo 600 **Research Report (1–2)**
The research report produces experience in research techniques and methods of reporting findings.

Geo 610 **Thesis (3)**
A thesis is built around a research problem for which the student develops a theory or proposition and investigates the available information on the subject.

GERMAN See Foreign Languages

GUIDANCE AND COUNSELING See Education

Health and Physical Education

Health Education

HEd 540 **School health problems (3)**
In-service training in school health problems, using the case technique method and a wide variety of materials, methods, and resources. **Prerequisite:** one year of teaching experience or equivalent.

HEd 541 **School–community health education workshop (3)**
Common health-education problems in the home, community, and school. In-service training in health education; developing effective follow-up programs in health services; coordinating the efforts of allied health agencies; promoting interest in local health units. The place of mental health in the total health program.

HEd 565 **Scientific bases for health (3)**
Past and recent scientific developments related to selected physiological health problems. Critical analysis of modern research findings which contribute to basic content in health education. The practical application of these findings through health behavior.

HEd 567 **Sociological bases for health (3)**
Past and recent scientific developments related to selected sociological health problems. Critical analysis of modern research findings in the areas of social health and mental health; the place of these findings in the basic content in health education and their practical application through group behavior.

Physical Education

PEd 500 **Methods and materials of research in health and physical education (2)**
Techniques of research in education applied to the field of health, physical education, and recreation.

PEd 502 **Elementary physical education workshop (2)**
Orientation for the teaching of elementary physical education. Principles and practices; appropriate activities for various grade levels.

PEd 510 **School and community recreation (3)**
Community recreation with emphasis on the role of the school in the total program.

PEd 512 **Outdoor education workshop (2)**
Principles, procedures, and skills for conducting outdoor education programs. Seminars, lectures, field trips, and practical participation in outdoor education skills.

PEd 520 **Scientific principles of coaching (3)**
Recent trends and changes in theories and techniques of teaching sports. Mechanical principles of efficient movement. Research related to competitive performance. Specialists in several areas of coaching serve as guest panelists.

PEd 530 **Scientific bases for health and physical education (3)**
Study and analysis of scientific data related to instruction in physical education activities. Emphasis is on basic scientific approaches to motor learning and development of skill patterns. **Prerequisite:** anatomy, physiology, applied physiology, or equivalents.

PEd 531 **Adapted physical education (3)**
A course to help the physical educator provide a positive program of adapted physical education in the public school. Emphasis is on the application of activities to benefit the child with a temporary or permanent disability. Modified activities; specific corrective exercises.

PEd 534 **Modern principles of athletic training (2)**
A lecture and laboratory course for the practicing physical educator and/or coach. Injuries which occur in class, practice, and game situations; preventive taping and wrapping; immediate first-aid procedures; principles for good professional relations with the medical profession.

PEd 550 **Historical and philosophical bases for health and physical education (3)**
Past and contemporary philosophies, principles, and objectives in health, physical education, and recreation; current trends.

PEd 551 **Seminar in professional literature in health, physical education, and recreation (3)**
A critical review of current professional literature in the area and its related fields. Emphasis centers on the application of the literature to teaching and research.

PEd 560 **Contemporary problems in health, physical education, and recreation (3)**
An overflow of problems in teaching health, physical education, and recreation with relation to in-service aspects. Emphasis is on factors and variables which influence solutions of these problems.

PEd 561 **Techniques of measurement and evaluation in health and physical education (3)**
Statistical and evaluative procedures and their application to health, physical education, and recreation.

PEd 562 **Administration and supervisory practices in health, physical education, recreation, and athletics (3)**
Nature and scope of the positions of directors or supervisors of physical education, recreation, and athletics. Job specifications; operational principles and procedures.

PEd 563 **Scientific measurement and instrumentation (2)**
Experience in measurement involving operation of laboratory equipment for research in physical education.

PEd 564 **Biodynamics of human performance (3)**
Physiology of the active, vital phenomena of the organism. Emphasis is on scientific findings concerning human performance, especially under stress and accompanying physiological adjustments.

PEd 566 **Mechanical analysis of motor skills (3)**
Fundamental principles of mechanics, applied to teaching physical education and athletic activities.

PEd 570 **Curriculum in health and physical education (3)**
Contemporary trends in health and physical education curricula at the elementary, secondary, and college levels. Surveys, reports, and analyses of curriculum practices are applied to the construction of programs.

PEd 571 **Comparative physical education (3)**
Comparative study of programs outside the United States. Current philosophies, principles, and practices. Resources in complete form and/or abstracts in both the foreign language and translation. Audio-visual resources.

PEd 572 **The child and physical education (3)**
The potential contributions of physical education to the child's physical, social, emotional, and intellectual growth and to his developmental needs and interests. Ways and means of studying and evaluating the influences of various activities on growth and development.

PEd 573 **The Olympic games—their influences on the ancient and contemporary worlds (2)**
Study of the ancient and modern games and their historical and cultural significance. Sociological and political implications of the modern games.

PEd 580 **History and philosophy of safety education and principles of accident prevention (3)**
Development of the safety movement in the United States and other countries. Place of safety education in modern living; philosophies of safety-education leaders; accident causation and prevention and their research implications. Background is given for administering school, civil defense, and emergency safety programs.

PEd 581 **Contemporary practices and program evaluation in safety education (3)**
Current practices, evaluation of existing programs, and research of current literature in safety education. Advanced techniques and methods of selecting, constructing, and utilizing instruments for evaluating safety-education programs. Problem-solving projects.

PEd 582 **Problems in traffic and driver education (3)**
Contemporary curriculum and current practices in driver and traffic education, enforcement of traffic laws and regulations, engineering problems. Problem-solving projects.

PEd 583 **Psychology in safety education and accident prevention (3)**
Effects of unconscious determinism, habits, attitudes, individual adjustment, motivation, and personality on accident causation. Research implications are explored.

PEd 591 **Research Project Seminar I (2)**
A course for the M.Ed. candidate. The candidate selects a research problem for a Research Report, reviews the literature, develops procedures, and collects appropriate data. He is expected to complete the first three chapters of his Research Report during Seminar I, and will continue to register for this course each semester or regular summer session until this requirement is met. He must then register for Seminar II.

PEd 592 **Research Project Seminar II (1)**
The M.Ed candidate is expected to complete his Research Report in this seminar (see PEd 591). He continues to register each semester or regular summer session until the report is completed.

PEd 593 **Thesis Seminar (2)**
A course for the M.S. candidate, who selects a topic, reviews the literature, develops procedures, and prepares a proposal which must be acceptable to his thesis committee. The candidate continues to register for the seminar until he has met its requirements. He then registers for PEd 610.

PEd 610 **Thesis (4)**
The candidate, working with a thesis adviser or thesis committee, registers for this course until his thesis has been accepted.

History

See also Social Science (SSc)

His 508 **Colonial America, 1607–1763 (2)**
The development of the thirteen mainland colonies of Anglo-America from their settlement to mid-eighteenth century. Emphasis is placed upon a conceptual anaylsis of specific events and problems.

His 509 **Revolutionary America, 1763–1789 (2)**
A study of American development from the mid-eighteenth century to the framing of the Constitution, with emphasis upon the causes of the American Revolution and the evolution of American institutions and ideas throughout the period.

His 511 The rise of the new nation, 1789–1850 (2)
A depth-study approach to the problems of the period, 1789-1850, with emphasis on the foundations and development of the Federalist Party, the emergence of Jeffersonian Democracy, the evolution of Jacksonian Democracy, and the events of the Middle Period leading to the decade of controversy.

His 512 Civil War and Reconstruction: 1850–1876 (2)
The conflict between North and South from the Compromise of 1850 through the disputed election of 1876; the intensification of the sectional struggle; secession, major wartime problems of the Union and the Confederacy, principal military campaigns; the Reconstruction Era and efforts to create a new Union.

His 513 Emergence of Modern America: 1876–1919 (2)
The rise of industry, labor, immigration, and new cultural patterns; emergence of new political alignments, rise of imperialism, development of liberalism and reform; America's struggle for neutrality and the nation's participation in World War I.

His 514 The United States as a world power: 1919–present (2)
America's development as a world power. The impact of industrialization upon society, politics, and economics; problems of the war and post-war periods; the work of our nation toward world unity.

His 515 Problems in American constitutional development (3)
Selected problems in the development of American constitutional government. Emphasis is on the progressive adaptation of the law to a changing social and economic order. Conflicts such as nationalism versus states' rights and vested rights versus police power.

His 516 Recent American diplomatic history (2)
American foreign policy in Europe, Asia, Latin America, and the Middle East from 1939 to the present. The objectives sought by the United States and the political, military, economic, and social policies pursued; the nature of our military strategy; the role of the United States in the future of underdeveloped countries.

His 523 Contemporary world affairs (2)
An analysis of the cold war between the U.S.S.R. and the United States and the Western democracies; contemporary efforts to maintain peaceful coexistence of the democracies with the Communist dictatorships; the impact of the nationalist movements of the peoples of Asia and Africa on contemporary world politics.

His 524 Studies in the history and culture of South Asia (3)
A study of the Indian sub-continent's dominant political, cultural, and economic institutions within their historical framework. Features which contribute to an understanding of modern India and Pakistan.

His 525 Studies in the history and culture of East Asia (3)
The traditional basis for modern Chinese, Japanese, and Korean society is examined. Emphasis is placed on the interaction between European and Asian cultures and the resulting changes brought about in East Asia.

His 526 Workshop in World Cultures (2)
A workshop for in-service teachers who are assigned to teach World Cultures in the secondary schools of Pennsylvania. Western and non-Western cultures, studied through the use of resource persons and faculty; research in recent reference materials; consultation with representatives of cultural regions.

His 527 Studies in the history and culture of Emerging Africa (3)
The emergence of modern African nationalism is examined against the background of traditional African society and the legacy of European colonialism.

His 530 Problems in Medieval Civilization (3)
Rise and fall of the Byzantine Empire, the conquests of the Arabs and Turks, and the successive crusades for the recovery of the Holy Land; the religious orders and the universal aspirations of the Papacy.

His 531 The Renaissance (2)
Causes of the Renaissance and Humanism; religious trends. Political, military, and economic developments and the artistic and intellectual achievements which laid the foundations for modern Europe. The Northern Renaissance.

His 532 The Protestant Revolution (2)
The major and minor Protestant leaders and the movements they founded; the effects on the evolving nation-states; the Church of Rome's response; the Wars of Religion and the Treaty of Westphalia; the Scientific Revolution.

His 533 Dynastic Europe: 1648–1789 (2)
The absolute dynastic monarchy as best exemplified by France, Prussia, and Russia; the middle-class challenge as typified by the English experience; the Enlightenment and the New Science; capitalism; colonialism, and the wars of empire.

His 534 The French Revolution and the Napoleonic Era: 1789–1815 (2)
The causes of the French Revolution, failure of Absolutism, the Reign of Terror, the Directory; rise of Napoleon Bonaparte, his contribution to the Revolution, the Empire—its rise and collapse; the Congress of Vienna.

His 535 Nationalism and Democracy: 1815–1914 (2)
The aftermath and effect of the French Revolutionary era; the events brought on by the growth of nationalism and democracy; the development of the industrial revolution. The roots of the First World War.

His 536 **Europe since 1914 (2)**
Twentieth century Europe, with emphasis on the causes of World War I; Europe between World War I and World War II; the problems of contemporary Europe.

His 540 **The evolution of Modern Russia (3)**
The religious, social, political, and economic forces at play in Russia during the reign of Alexander II and the period of the great reforms. The emergence and subsequent collapse of capitalist Russia through communism. An examination of the present Soviet state, ideologically and politically, and its role in the modern world.

His 541 **Tudor and Stuart England (2)**
Social, cultural, religious, political, and economic developments during the Tudor and Stuart reigns: building a strong Tudor monarchy, the English Reformation. Stuart Absolutism; Puritan Revolution, Civil War and the Commonwealth, the beginning of Empire; the Restoration, Glorious Revolution, and growth of English constitutionalism.

His 550A **Seminar in American History (2)**
Selected problems in American History. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500, two courses from Group I.

His 550B **Seminar in European History (2)**
Selected problems in European History. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500, two courses from Group II.

His 610 **Thesis (6)**

Humanities

Hum 500 **Humanities (2)**
A composite course composed of three major fields of subject matter: art and architecture, music, and literature. The material is closely correlated to show the relationship of the three fields to each other and to the central theme of a general philosophy connecting these fields of life. The professors teaching Hum 500 develop specific material in concert to establish an over-all unity. **Prerequisite:** Methods and Materials of Research (500).

Mathematics

Mat 500 **Methods and materials of research in mathematics education (2)**
Techniques of research in mathematics education. Analysis of the types of research, selection of a problem, formulation of a plan of investigation and report.

Mat 501 **Fundamental concepts of mathematics I (3)**
A course for the elementary teacher. Development of our number system, its base, the various types of numbers and operations in mathematics.

Mat 502 **Fundamental concepts of mathematics II (3)**
Continuation of Mat 501. Structure of the real number system; basic concepts of geometry. **Prerequisite:** Mat 501.

Mat 503 **History of mathematics (3)**
Development of mathematics from prehistoric time to the present.

Mat 505 **Theory of sets (3)**
Set theory and the foundations of mathematics. Sets, subsets, set operations, algebra of sets, equivalence relations and partitions, sets of numbers, cardinal numbers, theorems of Cantor and Schroeder-Bernstein, continuum hypothesis, order in sets, ordinal numbers.

Mat 506 **Fundamentals of mathematics for physics (3)**
A critical examination of mathematics from the point of view of its physical applications.

Mat 511 **Foundations of algebra (3)**
Basic concepts in algebra: nature and structure of the number system; sets and their use in algebra; mathematical systems in general; an introduction to abstract algebra.

Mat 512 **Modern algebra (3)**
Various abstract algebraic systems such as integral domains, rings, fields, and groups, studied from an axiomatic point of view.

Mat 513 **Linear algebra (3)**
Vectors, vector spaces, determinants, linear transformations, matrices, bilinear and quadratic forms. **Prerequisite:** Mat 512.

Mat 514 **Theory of numbers (3)**
Elementary number theory and selected topics in analytic number theory. Divisibility properties of the integers, congruences, quadratic residues and the law of quadratic reciprocity, arithmetical functions, Diophantine equations, continued fractions, the distribution of primes, the prime number theorem, Riemann zeta function, and theory of partitions.

Mat 515 **Algebra I (3)**
A detailed study of the elements of abstract algebra. Groups, commutative ring theory, modules, and associative algebras over commutative rings.

Mat 516 **Algebra II (3)**
A continuation of Algebra I. Vector spaces, representation theory, and Galois theory studied in detail. **Prerequisite:** Mat 515.

Mat 517 Advanced topics in algebra (3)
A course in advanced algebraic theories. Homological algebra, algebraic geometry, and algebraic number theory. **Prerequisite:** Mat 516.

Mat 521 Educational statistics (2)
Statistics for teachers. Measures of central tendency, deviation, correlation, tests of the significance of results.

Mat 522 Advanced educational statistics (2)
Continuation of Mat 521. Applications of various distributions, analysis of variance and covariance, multivariate analysis. **Prerequisite:** Mat 521.

Mat 523 Mathematical statistics I (3)
Mathematical treatment of random phenomena and an introduction to statistics. Elementary concepts of probability, conditional probability, compound events, expectation, random variable.

Mat 524 Mathematical statistics II (3)
Continuation of Mat 523, emphasizing the mathematical aspects of statistics. Correlation, sampling, tests of significance, analysis of variance, and other topics. **Prerequisite:** Mat 523.

Mat 525 Probability and statistics (3)
An advanced approach to the elements of probability and statistics. Discrete and continuous random variables, probability distributions, sampling distributions, interval estimation, tests of hypothesis, regression and correlation, and introduction to analysis of variance.

Mat 530 Geometry for the elementary grades (3)
Basic concepts in geometry for the elementary-school teacher. Informal geometry and concepts of point, line, and plane. Congruence, similarity, measurement, coordinate geometry. The postulational method. **Prerequisite:** Mat 501 or equivalent.

Mat 531 Foundations of geometry (3)
Basic concepts in geometry. Fundamental notions covering point, line, and plane; structure of geometric systems; Euclidean geometry. Introduction to non-Euclidean geometries.

Mat 532 Modern geometry (3)
Foundations of higher geometry. Axiomatics and the structure of a geometric system. Euclidean geometry from the standpoint of the Euclid and Hilbert postulates. Certain topics in projective and hyperbolic geometry are investigated.

Mat 533 Projective geometry (3)
An algebraic approach to projective geometry. Invariant theory, projective spaces, conics and quadratic forms, and subgeometries of real projective geometry.

Mat 534 **Differential geometry (3)**
Modern differential geometry. Calculus on Euclidian space, frame fields, calculus on manifolds, shape operators, and Riemannian geometry.

Mat 535 **Point set topology (3)**
A detailed study of the basic notions of point set topology. Filters, nets, separation axioms, compactness, connectedness, and uniform spaces.

Mat 536 **Algebraic topology (3)**
Algebraic topological invariants. Homotopy theory; simplicial, singular and Cech homology; and cohomology theories. **Prerequisite:** Mat 516, Mat 535.

Mat 537 **Advanced topics in topology (3)**
A special topics course in topology. Dimension theory, topological groups, Lie groups, and differential topology.

Mat 541 **Advanced calculus I (3)**
Foundations of real analysis. Limits, continuity, derivatives, sequences, Riemann integrals.

Mat 542 **Advanced calculus II (3)**
Continuation of Mat 541. Functions of several variables, partial derivatives, implicit function theorems, transformations, multiple integrals. **Prerequisite:** Mat 541.

Mat 543 **Topics in differential equations (3)**
An advanced topics course. Existence and uniqueness theorems, stability theory, singular points, regular singular points, Sturm separation theorem, and the "method of Liapunov." **Prerequisite:** Mat 565.

Mat 545 **Real analysis I (3)**
A review of the differential and Riemann integral properties of a real valued function of a real variable, generalized to an abstract setting. The derivative in terms of a linear transformation and the integral in terms of measure on a sigma-algebra of subsets of a given set. The two concepts are unified via "Stokes" type theorems.

Mat 546 **Real analysis II (3)**
A continuation of Mat 545. Introduction to functional analysis; Hilbert and Banach spaces, operator theory, spectral theory, and the Haar integral. **Prerequisite:** Mat 545.

Mat 547 **Advanced topics in analysis (3)**
An advanced topic is selected on the basis of instructor and student interest. **Prerequisite:** Mat 546.

Mat 550 **Modern techniques of teaching secondary school mathematics (2)**
An analysis of the content, philosophy, and objectives of modern courses of study. Motivation, teaching techniques, and materials are stressed.

Mat 551 **Secondary school mathematics for the low achiever (2)**
Development of materials and techniques for teaching low achievers.

Mat 552 **Materials for teaching secondary school mathematics (2)**
Examination of the materials for teaching secondary mathematics now available commercially. Creating new materials for use with specific concepts in mathematics. Includes models for teacher use and models for use by individual students.

Mat 555 **Modern techniques of teaching elementary school mathematics (2)**
Methods of teaching the new mathematics in the elementary grades. **Prerequisite:** Mat 501 or equivalent.

Mat 556 **Development of the mathematics curriculum in the elementary grades (2)**
A course designed to develop the key teacher or coordinator for the modern elementary-school mathematics program. Curriculum development, articulation with the secondary mathematics program, testing programs. **Prerequisite:** Mat 501 or equivalent.

Mat 565 **Complex variables I (3)**
Complex analysis. Complex numbers and the complex plane; analytic and meromorphic functions and their calculus and representations; elementary functions, contour integration, and an introduction to conformal mapping.

Mat 566 **Complex variables II (3)**
A continuation of Mat 565. Analytic continuation, entire and meromorphic functions, conformal mapping and the Riemann mapping theorem, univalent functions, and the principle of subordination. **Prerequisite:** Mat 565.

Mat 571 **Operations research and applied mathematics (3)**
Topics in applied mathematics selected on the basis of their applicability to industrial, governmental, and business problems. Linear and dynamic programming, game theory, extreme value problems, inventory, allocation, and queuing and search problems.

Mat 590 **Seminar in mathematics (3)**
Preparation for original research. Current topics of general interest not included in other courses. **Prerequisite:** mathematical maturity.

Mat 600 **Research Report (1-2)**

Mat 610 **Thesis (3-6)**

Computer Science

CSc 501 **Introduction to computer programming (3)**
Designed for the student without a background in mathematics. Nature, theory, and use of computers. Programming and applications.

CSc 510 **Computer programming and numerical methods (3)**
Algorithmic methods. The computer is used to solve a variety of numerical and non-numerical problems. **Prerequisite:** one year of calculus.

Music

Mus 500 **Methods and materials of research (2)**
Basic techniques and procedures in research. Major types of research and methods for locating, evaluating, and interpreting evidence. Preparation of a research outline required.

Mus 501 **Aspects of musical style I (3)**
Selected master works from the Middle Ages to the nineteenth century. The influence of these works on musical thinking, historical and technical, is stressed.

Mus 502 **Aspects of musical style II (3)**
Selected master works, using literature of the nineteenth and twentieth centuries.

Mus 505 **Vitalizing music in the elementary school (2)**
A course designed for the elementary classroom teacher. Study of the various song series, instruments, and materials in current use.

Mus 506 **Teaching of music appreciation in the elementary grades (2)**
Primarily for the elementary classroom teacher. Provides available materials from which units of study for specific grades may be organized. Audio-visual materials receive emphasis in this examination of ways to enrich the school music program.

Mus 507 **Music education in the elementary school (2)**
A course for the music educator. Problems, procedures, and materials in the elementary school classroom. **Prerequisite:** elementary music methods, teaching experience.

Mus 508 **Music education in the secondary school (2)**
The general music class in the secondary school, with emphasis on conceptual learning, structured curriculum, independent study, and aesthetic experience. **Prerequisite:** secondary school music methods, teaching experience.

Mus 509 **Music appreciation in the general music program (2)**
Various approaches to musical understanding and heightened appreciation of music. Emphasis is upon materials which elicit response from pupils.

Mus 510 **Current trends in music education (2)**
Principles and philosophy of music education in relation to modern educational philosophy and curriculum practices. **Prerequisite:** elementary and secondary music methods.

Mus 511 **Administration of public school music (2)**
Administrative problems, curricular content and scheduling, in-service training of teachers, and supervisory planning. Discussion of problems in supervision and administration which members of the class have encountered. **Prerequisite:** teaching experience.

Mus 515-16 **Elementary Chorus, Band, or Orchestra (1)**
Primarily an elective in the Master of Arts and Master of Music curricula. In addition to performing, graduate students direct at least two full rehearsals. **Prerequisite:** ability to perform at the level of a second-year student.

NOTE. The M.Mus degree is pending Dept. of Public Instruction approval.

Mus 517, 518 **Workshop in music history (1)**

A laboratory course for the study of music of the Medieval, Renaissance, and Baroque Periods through performance and analysis. The course is varied according to the instruments played by the students and according to their vocal ranges.

Mus 519-22 **Advanced Choir, Concert Band, Marching Band, Orchestra, or Sinfonietta (1)**
Participation in preparation of programs for concert performance. **Prerequisite:** previous performance experience in appropriate organizations and/or admission by audition.

Mus 523 **Ensembles in piano, voice, woodwind, brass, string, or mixed (2)**
Study and performance in selected ensembles arranged to the specific needs of the students. **Prerequisite:** performance ability at the major level.

Mus 524 **Keyboard activities for the classroom teacher (2)**
A functional study of the piano, primarily for the elementary classroom teacher. Accompanying in the classroom; rhythmic and creative activities; practical classroom materials.

Mus 525-26 **Class lessons in woodwind, brass, percussion or string (2)**
A study of techniques and literature through performance. **Prerequisite:** ability to perform at the level of a second-year student.

Mus 527 **Advanced keyboard harmony (2)**
The use of the piano as a tool in the teaching of music theory. Includes chorale harmonization, examples of the traditional sonorities, contrapuntal exercises, "free style" improvisation, and the use of contemporary techniques.

Mus 528 **Accompanying (2)**
Principles and problems of accompanying; various types of accompanying experiences in the vocal and instrumental literature. Practical experience in studio accompanying at all levels of difficulty. **Prerequisite:** 4 credits in piano.

Mus 529 **Vocal diction I (2)**
English, Italian, and Latin diction. A laboratory course to establish correct pronunciation in singing. The phonetics of these languages are used in selected song repertoire. **Prerequisite:** performing ability.

Mus 530 **Vocal diction II (2)**
French and German diction. A laboratory course as described above. Mus 529 is not prerequisite. **Prerequisite:** performing ability.

Mus 531, 532 **Opera workshop (2)**
Practical study of the techniques of producing musical plays. Course study of music and acting only. Preparation of roles, coaching, conducting rehearsals. The workshop experience may lead to a public performance of the material studied.

Mus 533 **Advanced choral conducting (2)**
Study and application of techniques for conducting performances of sacred and secular music of the various schools. **Prerequisite:** undergraduate conducting.

Mus 534 **Advanced instrumental conducting (2)**
Study and practice in conducting instrumental literature requiring advanced skill. Ability to read and conduct full scores of works for the large orchestra is developed. **Prerequisite:** undergraduate conducting.

Mus 535 **Advanced class lessons in woodwind, brass, percussion, or string (2)**
Continued study in the development of extensive repertoire and performing skills. **Prerequisite:** completion of the applied-music-major requirements at the undergraduate level, or admission by audition.

Mus 536 **Master classes in piano, organ, voice, woodwind, brass, percussion, or string (1–2)**
Discussion and performance of literature in the students' current repertoires. Demonstrations by the course professor and/or guest artists. **Prerequisite:** students must be currently enrolled for individual lessons at the major or advanced performing level.

Mus 537-38 **Individual lessons at the minor level in piano, organ, voice, woodwind, brass, percussion, or string (1)**
Individual half-hour lessons in all areas,* once weekly. An elective course for all graduate students.

Mus 539-42 **Individual lessons at the major level in piano, organ, voice, woodwind, brass, percussion, or string (1-2)**
Individual half-hour lessons in all areas.* Continued study in the development of extensive repertoire and performing skills. One credit hour may be earned through performance in a graduate recital. **Prerequisite:** completion of the applied-music-major requirements at the undergraduate level, or admission by audition.

* Areas of performance in applied music: piano, organ, voice, flute, oboe, English horn, clarinet, bassoon, French horn, trumpet, trombone, baritone, tuba, violin, viola, cello, bass, percussion.

Mus 543-47 Individual lessons at the advanced level in piano, organ, voice, woodwind, brass, percussion, or string (2-4)
Individual half-hour lessons in all areas,* once weekly. Advanced studies leading to a full-length recital at the master's level. **Prerequisite:** completion of the applied-music-major requirements for the Bachelor of Music degree and/or admission by audition.

Mus 550 Piano pedagogy (2)
Principles and procedures of piano teaching at all levels. Opportunity to teach and prepare criticism. **Prerequisite:** teaching experience or evidence of pianistic background sufficient for the course.

Mus 551 Vocal pedagogy (2)
Principles and techniques of teaching voice at all levels. Materials and procedures for improving tone quality of the individual and the choral group. **Prerequisite:** teaching experience or evidence of pianistic and vocal background sufficient for the course.

Mus 552 Marching band techniques and materials (2)
The marching band, including organization, music materials, care of instruments and uniforms, marching essentials, and contemporary techniques.

Mus 553 String pedagogy (2)
Principles and procedures of string teaching. Emphasis is on problems in teaching string classes. Includes techniques, materials, and methods. **Prerequisite:** teaching experience or evidence of background in string performance sufficient for the course.

Mus 554 Pedagogy of music theory (2)
Techniques and materials for teaching music theory. A comparative study of outstanding theorists, past and present.

Mus 555 Instrumental literature (2)
Instrumental materials for all levels of public schools. Program building and music for special occasions are emphasized. Class performance, scores, and recordings are used. **Prerequisite:** instrumental methods, performing ability.

Mus 556 Piano literature I (2)
Representative examples from early keyboard music, including harpsichord, through the mid-nineteenth century. Illustrated through performance by the instructor and members of the class and by scores and recordings. **Prerequisite:** performance ability at the major or advanced level.

Mus 557 Piano literature II (2)
Representative examples of keyboard music from the late nineteenth and the twentieth centuries. **Prerequisite:** same as Mus 556.

* Areas of performance in applied music: piano, organ, voice, flute, oboe, English horn, clarinet, bassoon, French horn, trumpet, trombone, baritone, tuba, violin, viola, cello, bass, percussion.

Mus 558 Vocal literature (2)
Classic song literature, lieder, and modern art songs. Illustrated through performance by the instructor and members of the class and by scores and recordings. Emphasis upon performance, teaching command, and program building. **Prerequisite:** 4 credits in voice, performing ability.

Mus 559 Choral literature (2)
Representative examples of choral music from the various periods are sung by the class. Research in a selected phase of the literature is required. **Prerequisite:** performing ability.

Mus 560 Woodwind literature (2)
A comprehensive evaluation of materials for solos and ensembles through performance by the instructor and members of the class and by use of scores and recordings. **Prerequisite:** performing ability.

Mus 561 Brass literature (2)
Evaluation of materials for solos and ensembles through performance by the instructor and members of the class and by use of scores and recordings. **Prerequisite:** performing ability.

Mus 562 String literature (2)
Evaluation of materials for solos and ensembles through performance by the instructor and members of the class and by use of scores and recordings. **Prerequisite:** performing ability.

Mus 565 Introduction to research in music history (2)
A careful and thorough orientation in bibliographical materials and research methods. The ability to read at least one foreign language is desirable. **Prerequisite:** approval of instructor.

Mus 566 Study and appreciation of the opera (2)
Study of the opera from its origin to the present. Works from Monteverdi and Gluck to Britten, Menotti, and Stravinsky are heard and analyzed. An elective course for all students.

Mus 567 Study and appreciation of the symphony (2)
Musical forms and literature of the symphony, presented in an intelligible and stimulating way. A non-technical approach to analysis and enjoyment. An elective course for all students.

Mus 568 Music criticism and aesthetics (2)
The nature of music, including philosophies of its meaning and evaluation of these philosophies. Study of music criticism, past and present, and exercises in reviewing concerts and recordings. An elective course for all students.

Mus 569 Special subjects seminar (1–2)
Significant topics presented by faculty members or visiting lecturers, usually representing the product of noteworthy research in history and literature of music. Or, designed to meet specific needs of the seminar group.

Mus 570 **Bach and his works (2)**
The life of J. S. Bach; his works for organ, keyboard, and other instruments; and his cantatas and larger choral works. This detailed study is introduced with a review of contemporary trends in music, the visual arts, history, and religion as they affected his composition.

Mus 571 **History of instruments (2)**
A comprehensive study of the appearance and uses of important musical instruments in Western Europe from the Middle Ages to the present according to chronology and category.

Mus 572 **String chamber music (2)**
Intensive study of important works of string ensemble literature through reading, rehearsing, and performing. May include a public performance.

Mus 573 **History of chamber music (2)**
The history, forms, and changing styles and media of chamber music from the sixteenth century to the present. Principal composers are studied.

Mus 574 **History of the symphony (2)**
How the symphony orchestra developed from the Baroque Period to the present in its function, literature, instrumentation, and performance practices.

Mus 575 **History of the opera (2)**
Detailed study of the composers and their major contributions to the various schools of opera. **Prerequisite:** 6 credits of history of music.

Mus 576 **History of music in the United States (2)**
Analysis of music and musical trends in America from the Pilgrims to the present.

Mus 577 **Music in non-Western civilizations (2)**
The music of pre-history, or primitive people of the present time, and the history and nature of oriental music and instruments.

Mus 578 **Music of the Medieval Period (2)**
Development of plainsong and secular monody and beginnings and early history of polyphony to the fourteenth century. Consideration of contemporary trends in the visual arts, history, and literature.

Mus 579 **Music of the Renaissance Period (2)**
Sacred and secular music in the Age of Dufay; changing forms and styles through the music of the Franco-Flemish Groups; the frottola and related forms; and Palestrina and his contemporaries, with a brief consideration of contemporary trends in the visual arts, history, and literature.

Mus 580 **Music of the Baroque Period (2)**
Styles and forms of Baroque repertoire; contributions of the major Baroque composers; role of music and musicians in the society of the Period.

Mus 581 **The Classical Age in music (2)**
Changing styles and forms in: the sons of J. S. Bach; the Viennese pre-classicists; the Mannheim School; opera; Joseph and Michael Haydn, Mozart and their contemporaries; and the early works of Beethoven.

Mus 582 **Music in the Romantic Era (2)**
Historical developments during the Romantic Period (circa 1800-1900). Analysis of changes and trends; comparative aspects of new forms.

Mus 583 **Contemporary music (2)**
Chronological survey of twentieth-century music. The development of styles. Technical aspects of changes occurring in melody, rhythm, orchestration, texture, tonality, and form are analyzed.

Mus 585 **Advanced band arranging (2)**
Emphasis is placed on arranging for school bands. Consideration is given to bands with inexperienced performers and limited instrumentation. **Prerequisite:** teaching experience and a knowledge of orchestration.

Mus 586 **Advanced orchestration (2)**
Original composition for orchestra. **Prerequisite:** a knowledge of the instruments of the orchestra and experience in their use.

Mus 587 **Advanced musical form (2)**
A detailed study of musical form, with emphasis on modifications of sonata form; vocal and instrumental forms of Baroque music; and forms which are unique.

Mus 588 **Advanced counterpoint (2)**
An advanced course in tonal counterpoint. Invention, canon, chorale forms, invertible counterpoint, and fugue. **Prerequisite:** Counterpoint I at the undergraduate level.

Mus 589 **Modal counterpoint I (2)**
The use of modes, musica ficta, and cadences in sixteenth century music. Experience in imitation in two parts, using all note values; double counterpoint; pronunciation; and setting of Latin texts.

Mus 590 **Modal counterpoint II (2)**
Continuation of Mus 589. Writing in three and more voices. **Prerequisite:** Mus 589.

Mus 591 **Advanced composition I (2)**
Free composition in the larger forms, employing ensembles of more than three performers; experience in writing for solo voice and chorus. **Prerequisite:** undergraduate course in composition.

Mus 592 **Advanced composition II (2)**
Intensive work in free composition for chamber groups and orchestra. **Prerequisite:** Mus 591.

Mus 593 **Advanced composition III (2)**
Continuation of Mus 592. **Prerequisite:** Mus 592.

Mus 594 **Twentieth century musical styles (2)**
Theoretical study of the compositional techniques of representative contemporary composers, including the study of harmony and form as these bear upon the problems. Creative work in the styles of the composers studied is attempted.

Mus 595 **Electronic music (2)**
Materials and techniques of electronic music and their use in composition. Includes laboratory experience in the composition of electronic music.

Mus 596 **Seminar in music theory (2)**
Intensive work in selected areas of music theory. Provides guidance in pursuing individual projects leading to significant current developments in the area of music theory. **Prerequisite:** permission of the Chairman of the Department of Theory and Composition.

Mus 598-99 **Research seminar in music (1-2)**
Emphasis is on the development of a research proposal with supporting procedures. Provides guidance in pursuing individual research topics, with tutorial assistance in form and style of research writing.

Mus 600 **Research Report (1)**

Mus 605 **Recital (2)**
(Contingent upon Dept. of Public Instruction approval of M.Mus. program.)
A full public recital is required of candidates for the Master of Music in applied music. The program should demonstrate an understanding of various performance styles and ability to perform literature from several periods. **Prerequisite:** approval by committee examination.

Mus 610 **Thesis in music education, theory, composition, or history and literature (3)**

Philosophy

(Open to All Curricula)

Phi 510 **Existentialism (3)**
Background and themes of current existentialism, as reflected in major existentialist works. Particular attention is given to Kierkegaard, Jaspers, Marcel, Heidegger, and Sartre. The course is designed to help students make their own evaluation of existentialism and its impact on contemporary literature, drama, art, and society.

Phi 511 Philosophic concepts (3)
Basic concepts of the philosophic enterprise: form, matter, the categories, cause, and purpose. The relation of premises to method and conclusions. Rival theories are compared for justification and adequacy.

Phi 512 Contemporary ethical theories (3)
A philosophic examination of various ethical theories of our time: pragmatism, evolution, idealism, hedonism, natural law, and other schools. Practical applications are made to such problems as authority, punishment, rights, marriage, and race.

Phi 513 Philosophy of art (3)
History of aesthetics, as seen in classic interpretations. The relation of aesthetic theories to one another, and to works of art. Origins of art, psychological and sociological; the role of art works in the enrichment of life.

Phi 514 Philosophy of religion (3)
A critical study of dominant trends in religious philosophy of the Western world. Religious language, reason and faith, science, the nature of man, the existence of God, and mysticism.

Phi 520 Philosophy of mind (3)
The human mind, according to representative views. Presuppositions and implications, both scientific and philosophic, traced and analyzed. The mind-body problem; perception; memory; and the implications of depth psychology.

Phi 521 Philosophy of the social sciences (3)
Philosophic issues in the social sciences; the sense in which they are "scientific"; laws, procedures, and prediction. The formation of concepts and theories; evaluation of evidence and cause; and determination of patterns and goals.

Phi 522 (also PhS 522) Philosophy of science (3)
The course begins with case studies in science and derives general principles from them. Scientific law, analogy, models, variant theories, confirmation, and interpretation.

Phi 523 Philosophy of language (3)
Problems of language and communication. Emphasis is on issues raised by contemporary analytic philosophers. The relation of language to reality, knowledge, and logic; syntax; semantics; and pragmatics; the language of description and value.

Phi 530 American philosophy (3)
The intellectual leaders of American life. Their impact on economics, history, science, and literature from Colonial times to the present.

Phi 531 **Oriental philosophy (3)**
A survey of the rich heritage of Eastern philosophy and religion. Central figures and classic teachings of Islam, Hinduism, Buddhism, Confucianism, Taoism, and Shintoism; naturalistic and humanistic elements of decisive influence on the culture of the Orient.

Phi 535 **Practical logic (3)**
Principles of clear reason and valid inference, with application to specific contemporary problems. Induction, deduction; the syllogism, fallacies, material logic, and logical procedures in the social sciences.

Phi 540 **Plato seminar (2)**
Plato's life, development, and doctrines. Several chief dialogues, from the standpoint of critical interpretations.

Phi 541 **St. Thomas Aquinas seminar (2)**
Major themes of St. Thomas from the **Summa Theologica** and the **Summa Contra Gentiles.** His view of man, the good, the beautiful, the true, the state, the world of Nature, and of God.

Phi 542 **Kant seminar (2)**
A study of Kant's **Critique of Pure Reason,** with reference to his development and his contributions to ethics, aesthetics, and philosophy of religion.

Physical Science

PhS 501 **Historical geology (3)**
The geologic history of the earth and the evidences for this history. Examination of fossils and geologic maps.

PhS 502 **Modern trends in teaching physical science (2)**
Recent materials and techniques in secondary-school physical science.

PhS 503 **Principles of physical geology (3)**
The composition of the earth (minerals and rocks) and earth processes (weathering, erosion, metamorphism, volcanism, diastrophism).

PhS 504 **Foundations of physics (3)**
Introduction to the structure of physics. Mathematical formulation of classical physics; vectors, mechanics, waves.

PhS 505 **Modern concepts in physics (3)**
Review of electricity and magnetism, the nature of radiation, quantum and atomic physics, radioactivity. **Prerequisite:** PhS 504 or equivalent.

PhS 506 **Seminar in physical science (1)**
Topics vary from year to year, depending upon the backgrounds and interests of the students. **Prerequisite:** 3 graduate courses in physical science.

PhS 507 **Recent advances in physical science (3)**
Selected current developments in physical science; their scientific significance and social or economic implications.

PhS 508 **Nuclear physics for teachers (3)**
Nuclear reactions, radioactivity, and aspects of nuclear structure. **Prerequisite:** general physics, modern physics.

PhS 510 **Electronics for teachers (3)**
Electronic circuits are analyzed, constructed, and tested. **Prerequisite:** general physics.

PhS 511 **Electricity for teachers (3)**
Analysis of the principles of electricity and electromagnetism. **Prerequisite:** ability to use differential and integral calculus, general physics.

PhS 512 **Mechanics for teachers (3)**
Mathematical analysis of dynamics and statics. **Prerequisite:** ability to use differential and integral calculus, general physics.

PhS 513 **Modern physics for teachers (3)**
Twentieth-century contributions and ideas, including special relativity, quantum theory, atomic structure, solid state structure. **Prerequisite:** general physics.

PhS 520 **Earth science for secondary school teachers (3)**
The earth's composition and history; processes that occur on and within the earth. Recent curricula and teaching materials.

PhS 521 **Mineralogy for the science teacher (3)**
Properties, identification, occurrence, and crystallography of the more important minerals. Fundamentals of mineral composition and structure.

PhS 522 **(also Phi 522) Philosophy of science (3)**
The course begins with case studies in science and derives general principles from them. Scientific law, analogy, models, variant theories, confirmation, and interpretation.

PhS 524 **Experimental physics (1–3)**
Experiments in modern and atomic physics. Experiments selected depend upon the backgrounds and interests of the students. **Prerequiste:** atomic or modern physics.

PhS 532 **Space science (3)**
Selected topics from astronomy and related sciences including the problems and results of exploring the universe beyond the earth's atmosphere.

PhS 560 **Workshop in rocks and minerals (3)**
Primarily for elementary school teachers. Fundamental principles for the classification, identification, and origin of rocks and minerals.

PhS 562 **General geologic field studies in Southeastern Penna. (3)**
Occurrence, relationships, and geologic history of the rocks, minerals, and soils of this area, studied at representative locations.

PhS 570 **Chemistry for the elementary teacher (3)**
Basic concepts in chemistry and their application to the elementary school program.

PhS 571 **Astronomy for the elementary teacher (3)**
Basic concepts in astronomy and their application to the elementary school program.

PhS 590 **History of the physical sciences (3)**
From Aristotelian concepts to modern scientific concepts.

PhS 595 **Elementary school science instruction (3)**
A course designed to improve the science backgrounds of in-service elementary–school teachers and administrators through an investigation of selected science topics.

Physics

Phy 502 **Principles of physics I (3)**
A consideration of special topics from the various branches of physics and the treatment of these problems in depth, stressing their interconnection and beauty.

Phy 503 **Principles of physics II (3)**
An extension of Phy 502.

Phy 504 **Physics laboratory (3)**
Experience with basic laboratory systems.

Phy 505 **Modern trends in teaching physics (2)**
Philosophy, techniques, subject matter, and effectiveness of current secondary-school physics courses, examined in relation to the changing character of American society and technology.

Phy 513 **Analytical dynamics (3)**
Wave propagation; Lagrange's equations and Hamilton's principle; rigid body motion; and special relativity.

Phy 514 **Heat and thermodynamics (3)**
Equations of state; first and second laws of thermodynamics; ideal and real gases; entropy; and statistical mechanics.

Phy 515 **Mathematical physics I (3)**
Selected topics of mathematics as applied to problems in physics. Topics to be covered include ordinary differential equations, complex variables and hyperbolic functions, vector calculus, and numerical analysis.

Phy 516 **Mathematical physics II (3)**
Selected topics of mathematics as applied to problems in physics. Topics to be covered include matrix algebra, Fourier's series, harmonic analysis, eigenvalues and eigenfunctions, and partial differential equations.

Phy 523 **Electronics (4)**
A laboratory course. Electron emission, rectification, voltage and power amplification, oscillators, and test circuits. Vacuum tubes and solid state circuits. One hour lecture and six hours laboratory.

Phy 530 **General astronomy (3)**
Astronomical bodies from the earth to distant galaxies. Man's place in the universe.

Phy 532 **Nuclear physics (3)**
Basic nuclear properties, nuclear structure, alpha and beta decay, gamma radiation, nuclear reactions, particle accelerators, detection equipment, and elementary particles.

Phy 533 **Nuclear physics laboratory (1)**
Ordinarily accompanies Phy 532. Preparation and handling of radioactive samples and examination of nuclear decay characteristics and reactions. (Phy 533 may be elected without concurrent enrollment in Phy 532 upon approval by the instructor.)

Phy 541 **Special topics in physics (1)**
A consideration of special developments in physics. Their scientific, social, and economic implications are discussed.

Phy 591 **Seminar (1)**

Phy 600 **Research (1)**

Political Science

PSc 531 **Modern political theory (3)**
Critical analysis of enduring political problems, primarily in the writings of political theorists from Machiavelli to the present; basic concepts of political science; theories concerning the proper role of the state in society.

PSc 532 **Seminar in international relations (3)**
Factors which motivate the actions of nations on the contemporary scene; the machinery which members of the nation-state system have evolved for giving effect to their various policies. Methods of diplomacy, international law, and international organization.

PSc 533 **The American legislative process (3)**
The legislative process in the United States; the executive-legislative relationship; the changing role of the legislature in America's balanced government.

PSc 540 **Democracy and totalitarianism (3)**
The political principles and philosophy underlying democracy and totalitarianism; the modern configuration of these two developing lines of political thought and practice.

PSc 550 **Seminar in political science (2)**
Selected problems in political science. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500.

Psychology

Psy 501 **Introductory statistics for the behavioral sciences (2)**
Central tendency, variability, standard scores, correlation, probability, sampling, tests of hypotheses, "t" test, chi square, distribution-free statistics, introduction to analysis of variance.

Psy 502 **Advanced statistics for the behavioral sciences (2)**
Special correlational methods, analysis of variance, and analysis of covariance. **Prerequisite:** Psy 501.

Psy 552 **Seminar in human development and behavior: adolescence (3)**
Problems unique to the adolescent and the young adult, against the background of human physical, social, and emotional development.

Psy 554 **Seminar: adolescent case studies (3)**
A functional, case-oriented approach to guidance. Principles and techniques of studying and counseling the individual. Types of case studies; referrals; recent research findings.

Psy 557 **Psychology of adjustment (2)**
Principles of mental hygiene in relation to emotional and social adjustment.

Psy 562 **Psychology of personality (2)**
The interaction and effects of forces which affect personality development. Normal and neurotic development contrasted; principles of personality measurement explored.

Psy 563 **Mental hygiene (2)**
Ways of achieving positive mental health, including ways in which people can improve their mental health through their own efforts.

Psy 580 **Individual psychometric techniques: Wechsler and Binet Scales (4)**
Historical development, administration, scoring, and interpretation of the Wechsler and Binet scales. **Prerequisite:** Psy 501, EdC 540, plus a background in psychology and permission of instructor. Not for credit in Guidance and Counseling program.

READING See Education

ROMANCE LANGUAGES See Foreign Languages

Science

Sci 500 **Methods and materials of research (2)**
A survey of scientific literature with emphasis on journals. Literature searching in the sciences. The preparation of scientific reports. Experimental design.

Sci 520 **New trends in the elementary school science curriculum (3)**
New developments in the elementary school science curriculum for in-service elementary school teachers and administrators.

SECONDARY EDUCATION AND PROFESSIONAL STUDIES
See Education

Social Science

SSc 500 **Methods and materials of research in the social sciences (2)**
Required of all students in a master's degree program in the social sciences and history. Basic techniques and procedures in research; major types of research and methods for locating, evaluating, and intepreting evidence. The student develops a tentative outline, bibliography, and summary of investigative procedure for a thesis or research report which must be completed before graduation. A study in historiography and the development of the social sciences is presented as background material.

SSc 502 **Methods and materials for teaching social studies (2)**
Current practices and procedures: organization and planning; the use of classroom, library, and curriculum materials; testing, measurement, and evaluation; bibliographical sources for both teachers and students.

SSc 550 **Seminar in contemporary European culture (6)**
A fully guided tour which offers a cross-section of Europe, past and present, through visits to museums, galleries, cathedrals, music festivals, and operas. Seminars and lectures by European academicians. An annotated diary, plus a paper on some facet of the tour, is required. **Summer.**

SSc 600 **Research Report (2)**
Experience in research techniques and methods of reporting the results of research. The College libraries and nearby libraries and historical societies are the principal sources of material.

SSc 610 **Thesis (3)**
Experience in research techniques and methods of reporting the results of research. The thesis must elicit information and develop arguments to support a proposition or theory drawn from primary and secondary sources.

Sociology and Anthropology

Soc 531 **Social pathology (3)**
Analysis of pathological conditions in modern urbanized-industrialized society; the causes and possible corrections of these conditions.

Soc 532 **Historical sociology (3)**
History of social thought from the early Greeks to contemporary times. Contributions of outstanding European and American sociologists to social theory and research.

Soc 533 **Intergroup relations (3)**
The social processes and specific concepts of groups, particularly when in conflict; interaction in group behavior; sociological principles for the recognition and prevention of conflict.

Soc 550 **Seminar in sociology (2)**
Selected problems in sociology. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500.

Ant 530 **Problems in anthropology (3)**
Major aspects of physical and cultural anthropology. Emphasis on topics suitable for discussion and study in the elementary and secondary curricula. Some background in anthropology is recommended.

Ant 550 **Seminar in anthropology (2)**
Selected problems in anthropology. The subject will be announced in advance of each semester. **Prerequisite:** SSc 500.

SPANISH See Foreign Languages

SPECIAL EDUCATION See Education

Speech and Theatre

(Open to All Curricula)

Sph 543 **Advanced problems in public speaking (2)**
Parliamentary procedures for large and small groups with emphasis on problems of chairmen, committee members, conventions, etc.; leadership and participation in group discussion; speech making. Research project required.

SpP 544 **Survey of speech disorders (2)**
Introduction to the definition, etiology, and management of functional and organic disorders of speech.

ThA 536 **Producing the television program [nondramatic] (3)**
Basic concepts of television planning and production for the nondramatic format. The student uses the tools of television, becomes familiar with the studio, and plans a series of instructional lessons for use in the classroom. (Lecture and laboratory).

ThA 537 **Television program directing [dramatic] (3)**
Continuation and development of skills and knowledge in the use of television equipment, application of the arts of the theatre and film in the production of the dramatic television program. Each student plans a program series. (Lecture and laboratory). **Prerequisite:** ThA 536.

URBAN EDUCATION See Education

Academic Council, 3
Academic information and regulations, 18
Accreditation, II
Administration for Graduate Studies, 3
Administrative Officers, V
Admissions, 5
  transfer students, 8
Advanced standing, 8
Advisory system, 27
Anthropology, see Anthropology-Sociology
Application fee, 7, 9
Application procedure, 7
Art
  course descriptions, 91
  faculty and offerings, 31
Assistantships, 12
Auditors, 6
  changing to auditor status, 21
  fee, 10

Billboard, The Graduate, 17
Biology
  course descriptions, 91
  faculty and degree programs, 41
Boards, IV
Bureau of Research and Related Services, 14

Calendar, academic, **inside front cover**
Cars, permit for, 11
Certification
  extending provisional, 22
  in Intern Program, 88
  permanent, 22
Chemistry
  course descriptions, 95
  faculty and degree programs, 44
Class attendance, 18
Class hours, 18
College of Arts and Sciences, 30
Communications Directory, **inside back cover**
Computer Science courses, 132
Council of Higher Education, IV
Credit by transfer, 8
Cultural events, 17
Curricula, see desired discipline
Curriculum, changes in, 20

Deadline dates for graduating students, 28
Degree candidacy, 6, 25
  reapplication for, 26
Degree requirements summarized, 27
Delaware-Chester Regional Instructional Materials Center, 15
Department of Public Instruction, IV
Dismissal from the College, 21
Division of Arts and Letters, 30, 31
Division of Sciences and Mathematics, 30, 41
Division of Social Sciences, 30, 53

Economics and Business
  course descriptions, 97
  faculty and offerings, 53
Education, see School of Education
Educational Media (Audio-Visual), see School of Education
Elementary Education, see School of Education
English
  course descriptions, 106
  faculty and degree programs, 32
European Summer Tour, 17
Examinations, 23
Expenses, 9

Faculty, see listings in Programs and Degree Requirements section
Fees, 9
Financial aid, 12
Foreign Languages
  course descriptions, 110
  faculty and degree programs, 36
Francis Harvey Green Library, 14
French, see Foreign Languages

Geography
  course descriptions, 118
  faculty and degree program, 54
German, see Foreign Languages
Grade reports, 20
Grading system, 19
Graduate Association, The, 16
Graduate Council, 3
  members of, VII
Graduate programs, listed, VIII, 3
Graduate Record Examination, 23
  see also degree requirements under specific programs
Guidance and Counseling Center, 16
Guidance and Counseling program, see School of Education

Health and Physical Education, see School of Health and Physical Education
Health Service, 15
History
  course descriptions, 125
  faculty and M.A. program, 56, 59
  see also Social Science
History of the College, 1
Housing, 15
  fee for, 9
Humanities course (Hum 500), 128

Identification (I.D.) card, 11
Incompletes, removing, 19
Infirmary, 15
In-service teachers, 2, 3
  student load for, 19
Insurance, medical and accident, 16
Instructorships, part-time, 12
Intern Program, 88
Intracollegiate Governmental Association, 17
  activities fee, 10

Latin, see Foreign Languages
Library, 14
  card for, 11
Literature, see English
Loans to students, 12
Location of the College, 2

Map of campus, 152
Mathematics
  course descriptions, 128
  faculty and degree programs, 46
Medical services, 15
Music, see School of Music

Permanent certification, 22
Philosophy
  course descriptions, 140
  faculty and offerings, 40
Physical Education, see Health and Physical Education
Physical Science
  course descriptions, 142
  degree program, 49
Physics
  course descriptions, 144
  faculty and degree program, 51
Placement Service, 13
Political Science
  course descriptions, 145
  faculty and offerings, 61
Provisional certification, 22, 88
Psychology
  course descriptions, 146
  faculty and offerings, 61

Reading, course descriptions, 103
Refunds, 11
Registration, 7
Research and Related Services, Bureau of, 14
Research Report
  binding costs, 9
  distinction between Research Report and Thesis, 25
  in M.Ed. programs, 23
Research requirements for M.Ed. degree, 23
Residence requirement, 22
Resident advisers, 13

School of Education
  Educational Media (Audio-Visual)
    course descriptions, 97
    programs, 64
  Elementary Education
    course descriptions, 99
    degree program, 67
    Intern Program for provisional certification and for degree, 90
  faculty (of School), 63
  Guidance and Counseling
    course descriptions, 102
    degree program, 71
  offerings for all curricula, 74
  Reading, course descriptions, 103
  Secondary Education and Professional Studies
    course descriptions, 104
    offerings, 74
  Special Education courses, 106
  Urban Education courses, 106
School of Health and Physical Education
  course descriptions, 122
  degree programs, 76
  faculty, 76
School of Music
  course descriptions, 133
  degree programs, 81
  faculty, 80
  fees, 10
Science course descriptions, 147
  see also biology, chemistry, physical science, physics
Secondary Education and Professional Studies, see School of Education
Selective Service Information, 16
Six-year limitation, 8, 21
Social Science
  course descriptions, 147
  faculty, 56
  program for M.Ed. degree, 56
Sociology-Anthropology
  course descriptions, 148
  faculty and offerings, 62
Spanish, see Foreign Languages
Special Education course descriptions, 106
Speech and Hearing Clinic, 16
Speech and Theatre
  course descriptions, 148
  faculty and offerings, 40
Sports activities, 17
Student load, 19
Summer Sessions, 4, 18

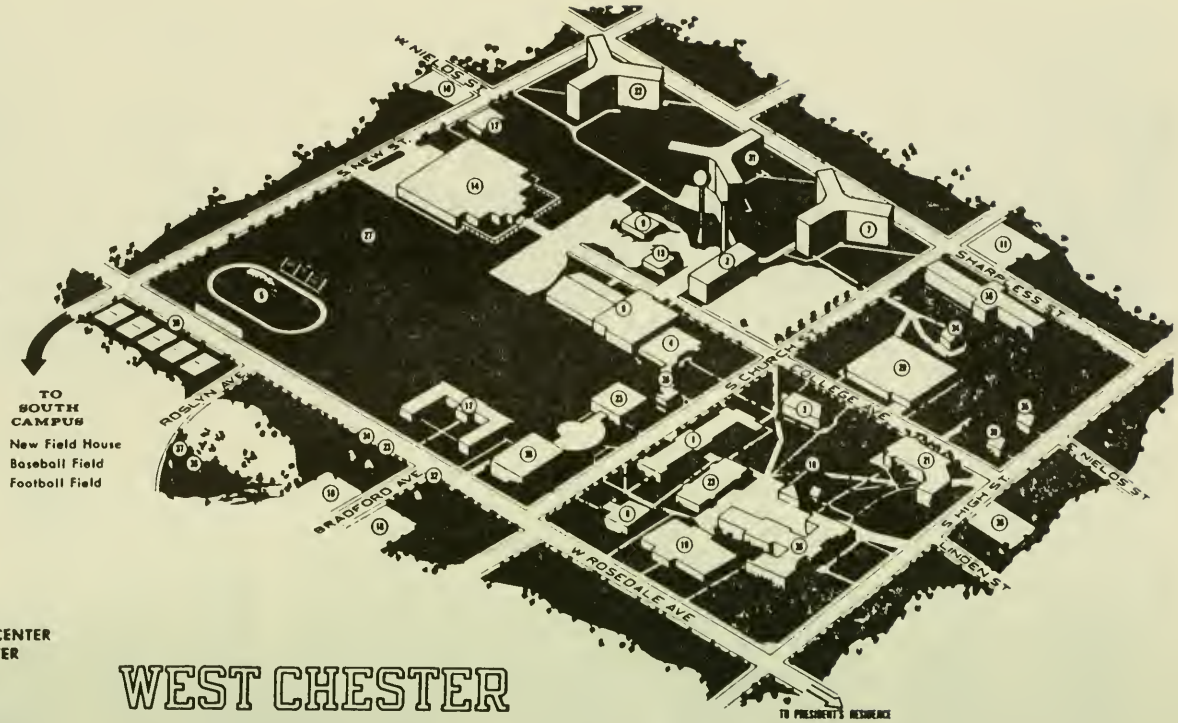
Thesis
  binding costs, 9
  distinction between Thesis and Research Report, 25
  requirements for Thesis in M.Ed. program, 23
Time limitation on degree programs, 8, 21
Transcripts
  fee for, 10
  obtaining at West Chester, 22
  required with application, 7
Transfer of credit, 8, 22
  for West Chester students, 20
Trustees, Board of, IV

Urban Education course descriptions, 106

Veterans' Affairs, 16

West Chester State Graduate Association, 16
Withdrawal from courses, 21

1. ANDERSON HALL
2. BOILER PLANT
3. ADMINISTRATION BUILDING
4. EHINGER GYMNASIUM
5. SITE FOR NEW RESIDENCE HALL
6. MAINTENANCE GARAGE
7. GOSHEN RESIDENCE HALL
8. OLD LIBRARY ANNEX
9. HOLLINGER FIELD HOUSE
10. PARKING
11. PARKING
12. KILLINGER RESIDENCE HALL
13. COLLEGE LAUNDRY
14. LAWRENCE CENTER (DINING HALL)
15. FRANCIS HARVEY GREEN LIBRARY
16. PARKING
17. ELECTRIC SUBSTATION
18. McCARTHY RESIDENCE HALL
19. OLD GYMNASIUM
20. OLD MAIN
21. PHILIPS MEMORIAL BUILDING
22. RAMSEY RESIDENCE HALL
23. OLD RECITATION HALL
24. REYNOLDS HALL
25. SCHMUCKER SCIENCE CENTER I
26. SCHMUCKER SCIENCE CENTER II
27. PLAYING FIELD
28. SPECIAL EDUCATION BUILDING
29. SWOPE HALL
30. TENNIS COURTS
31. TYSON RESIDENCE HALL
32. FOOTBALL STAFF OFFICES
33. PHYSICAL EDUCATION RESEARCH CENTER
34. EDUCATIONAL DEVELOPMENT CENTER
35. SPEECH AND HEARING CLINIC
36. SMITH HOUSE
37. PHYSICAL THERAPY CENTER
38. GENERAL STATE AUTHORITY OFFICES
39. PARKING



WEST CHESTER
STATE COLLEGE

NOT SHOWN ON MAP: LEARNING RESEARCH CENTER (SOUTHEAST CORNER OF HIGH AND ROSEDALE)

Communications Directory

	Office	Building	Telephone * 436 plus:
Admissions/Applications/ Catalogues	Graduate Studies	Administration	2243
Books and Student Supplies	College Bookstore	Recitation	2242
Business/Fiscal Matters	Business Affairs	Philips	2212
Counseling	Guidance/Counseling Center	Old Main	2611
Cultural Events	Cultural Affairs	Administration	2336
Curriculum:	Biology	Schmucker	2538
	Chemistry	Schmucker	2631
	Educational Media (Audio-Visual)	Anderson	2233
	Educational Research	Learning/Research	2835
	Elementary Education	Anderson	2944
	English	Anderson	2914
	Foreign Languages	Recitation	2372
	Geography	Anderson	2343
	Guidance and Counseling	Anderson	2660
	Health/Physical Education	106 W. Rosedale	2610
	History/Social Science	Anderson	2201
	Mathematics	Anderson	2440
	Music	Swope	2539
	Physical Science	Schmucker	2540
	Physics	Schmucker	2540
European Summer Tour	Division of Social Sciences	Anderson	2930
Financial Aid	Financial Aid to Students	Lawrence	2627
Graduate Students Association	Graduate Association	Administration	2715
Housing (Men)	Dean of Men	Killinger	2531
Housing (Women)	Dean of Women	Old Main	2537
Infirmary	College Health Service	Reynolds	2509
Intern Program	Undergraduate Studies	Administration	2334
Library Services	Francis Harvey Green Library		2747
Placement Services	Placement Office	Reynolds	2501
Teacher Education	School of Education	Anderson	2321
Transcripts/Veterans' Affairs	Scheduling and Academic Records	Administration	2337

* The College has a direct-dialing system. Offices are reached by dialing 436 plus number shown. (Area Code is 215.)

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West Chester State College Bulletin

WEST CHESTER STATE COLLEGE BULLETIN

Graduate Studies | Summer 1970

Volume 98 | Number 2 January
West Chester, Pa. 19380 1970

ACCREDITATION

The Middle States Association of Colleges and Secondary Schools

The National Council for Accreditation of Teacher Education

The American Association for Health, Physical Education, and Recreation

The National Association of Schools of Music

Willard J. Trezise, *Dean of Graduate Studies*
William C. Skillen, *Assistant to the Dean*

Office of Graduate Studies

Room 205 Administration Building

Office Hours: 8:00-12 noon and 1:00-4:30 p.m.
Monday thru Friday

Telephones: (Area Code 215)
436-2243, 436-2943
436-2659, 436-2736

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ARCHIVES

GRADUATE PROGRAMS AT WEST CHESTER

Certification and/or Master of Education			Master of Arts		Master of Science
Biology	Geography	Mathematics	Biology	French	Chemistry
Chemistry	German	Music Education	English	German	Educational Research
Counselor Education*	Health and Physical Education	Physical Science	History	Latin	Health and Physical Education
Elementary Education	Instructional Media Education	Physics	Mathematics	Spanish	
English	Latin	Social Science	Music		
French		Spanish			

* For those seeking certification in Counselor Education, the master's degree is required.

ADMINISTRATION

PRESIDENT	Paul W. Rossey
Dean of Faculty and Academic Affairs	Albert E. Filano
Dean of Graduate Studies	Willard J. Trezise
Assistant to the Dean of Graduate Studies	William C. Skillen
Dean, School of Arts and Letters	John W. Clokey
Dean, School of Education	Harold W. Benda
Dean, School of Health and Physical Education	Edwin L. Youmans
Deon, School of Music	Lloyd C. Mitchell
Dean, School of Sciences and Mathematics	Russell K. Rickert
Dean, School of Social and Behavioral Sciences	Byron Y. Fleck
Director of Library Services	Frank Q. Helms
Director of Research and Related Services	Martin J. Higgins
Director of Summer Sessions	Walter E. Buechele
Dean of Student Affairs	Elinor Z. Taylor
Director of Financial Aid to Students	William Benner
Dean of Men	W. Glenn Killinger
Dean of Women	Bernice Bernatz
Director of Placement Services	Edward T. Twardowski
Summer Sessions Social Director	Robert W. Reese
Director of Business Affairs	Everett E. Shaefer

The provisions of this Bulletin are not to be regarded as an irrevocable contract between the student and the College. West Chester State College reserves the right to change any provisions or requirements at any time within the student's term of attendance.

A Brief Look at the College

WEST CHESTER is a multi-purpose college with a student body of more than 5,800 full-time undergraduates. Nearly 1,000 additional undergraduates attend the College part-time, and another 1,500 students are enrolled (mainly part-time) for graduate studies. West Chester is thus the second largest link in the system of 14 institutions of higher learning which the Commonwealth owns and maintains for the youth of Pennsylvania. The objectives of the College are to prepare teachers for Pennsylvania's public schools and to provide a liberal arts education for its youth.

West Chester traces its history back to the West Chester Academy, founded in 1812. The College has acquired its present dimensions through changes largely determined as the Commonwealth assumed increasing responsibility for the education of young Pennsylvanians. The institution became West Chester State Normal School in 1871, West Chester State Teachers College in 1927, and West Chester State College in 1962.

The College has expanded into North Campus and South Campus, where the new facilities of the School of Health and Physical Education are rapidly taking shape. Widened educational resources include the new Francis Harvey Green Library, with approximately 200,000 volumes; a Learning Research Center, housing a modern laboratory school and computer center; and Schmucker Science Center. A complex of new, high-rise residence halls rings the western side of North Campus, and Lawrence Center, completed in 1965, provides modern dining halls, a student lounge, and other facilities.

An Undergraduate Studies catalogue, detailing the undergraduate programs of study, may be obtained from the Director of Admissions.

Location of the College

The College is in West Chester, the county seat of Chester County. With a population of 16,700, West Chester is small enough to have the pleasant aspects of a tree-shaded American town, large enough to contain essential services and the substance of a vigorous community, and old enough to give the student first-hand touch with America's early history.

West Chester was settled largely by members of the Society of Friends in the early years of the eighteenth century. The town retains many charming traces of their culture. Today, West Chester, as part of Philadelphia's rapidly growing suburban complex, provides opportunities for study of local, county, and regional government in a period of dynamic change.

The proximity of Philadelphia (25 miles to the east) and Wilmington (15 miles to the south) puts the libraries, museums, and other cultural and historical resources of the two cities in convenient range. West Chester is near Valley Forge, the Brandywine Battlefield, Longwood Gardens, and other historic attractions of Chester County. The College itself has a rich cultural program, including its All-Star Series, the William Pyle Philips Lecture Foundation Series, and the recitals and concerts of its own School of Music.

The Graduate Program at West Chester

West Chester's program of graduate studies, introduced in 1959, has grown rapidly in the past decade. The College now offers the Master of Education, the Master of Arts, and the Master of Science degrees. (See chart on first page of this Bulletin.)

With the in-service teacher particularly in mind, West Chester designs its graduate studies for the fall and spring semesters around a schedule of late afternoon, evening, and Saturday morning classes. It is possible to undertake full-time graduate programs during the academic year and summer sessions.

Graduate Annual Catalogue

The Graduate Studies catalogue, outlining programs and degree requirements, is available upon request to the Office of Graduate Studies.

Graduate Summer Sessions

For nearly a century, West Chester has offered Summer Sessions and has been known to generations of teachers in the College's wide service area as an ideal place for summertime study. Launched a decade ago, the Graduate Summer Sessions now draw some 2,500 students to a program which includes graduate course work and a number of special offerings for teachers in service.

The 1970 Summer Sessions will consist of three periods: the Pre Session of three weeks, the Regular Session of six weeks, and the Post Session of three weeks. Beginning in 1971, West Chester will introduce a two-session summer program for both graduate and undergraduate students, with each term meeting for six weeks.

1971 Summer Calendar

June 7—July 16	First Session
July 19—August 27	Second Session

(Classes for graduate students will meet evenings for the first two weeks of the First Session.)

The College offers a variety of cultural, recreational, and social events and activities, including trips to Robin Hood Dell concerts in Philadelphia, excursions to Longwood Gardens, a campus cinema series, swimming, tennis, dances, an All-College picnic, and faculty-student coffee hours. Consult the Summer Sessions Social Director (Ehinger Gymnasium) for further information.

Housing

Adequate housing is available for summer students. After applying for admission to a session, students may apply for room reservations to either the Dean of Men or Dean of Women, one week prior to the opening of a session. Rooms may be occupied after 2:00 p.m. on the Sunday preceding each session. (The College does not provide housing for married students and their families.)

College Regulations

The College regulations which pertain to student procedure and conduct during the academic year at West Chester are also in effect for the summer sessions.

Enrollment

Courses offered for the summer sessions are contingent upon an adequate enrollment.

Class Meetings

See the schedules of Pre, Regular, and Post Sessions for the dates and class hours of each session.

Grading System

The grading system employed in the graduate program is as follows:

Grade	Interpretation	Percentage Equivalents	Quality Points
A	Excellent	A = 90 - 100	4
B	Superior	B = 80 - 89	3
C	Average	C = 70 - 79	2
D	Below average	D = 60 - 69	1
F	Failure	F = 59 or lower	0
I	Incomplete		
WF	Withdrew Failing	F = 59 or lower	0
WP	Withdrew Passing		
Aud	Audit		

The following restrictions are enforced:

1) The student must maintain an overall average of at least B.

2) Grades lower than C are not acceptable in satisfying degree requirements.

3) Courses which for some valid reason (such as unavoidable absence during final examinations) are not completed by the end of a given semester must be completed by the end of 90 calendar days, unless the Graduate Council grants an individual exception in courses involving research.

Residence Requirements

All courses given in the graduate program are taught on campus by members of the Graduate Studies faculty. Therefore, graduate students should not expect to take off-campus or extension courses.

All graduate students planning to receive the master's degree from West Chester State College must take a minimum of two courses during one of the regular summer sessions or enroll as a full-time graduate student during one of the regular College semesters.

The College will accept in transfer only courses taken in residence at other approved graduate schools.

Placement Service

Every year the College Placement Service is notified of many positions on all levels of instruction. Because many of these positions offer unusual opportunities for professional advancement, graduate students are encouraged to use the Placement Service.

All students pursuing graduate work at West Chester are eligible for the use of limited services provided by the Placement Service. Graduate students who have completed less than 15 semester credits have access to the listings of vacancies. Students who hold undergraduate degrees from West Chester or who have completed 15 semester credits of graduate work are eligible for the full services, which include registration, development of a complete set of credentials, and mailing of credentials to prospective employers. There is no charge for the use of the Placement Service.

Fees for Summer Sessions

[Fees are subject to change without notice.]

[See also fee payment instructions under Registration Procedures.]

Basic Fee

[Check or money order payable to Commonwealth of Pennsylvania]

Graduate students who are legal residents of Pennsylvania—$25 per semester hour of credit.

Graduate students living outside the State—$30 per semester hour of credit.

Housing Fee

The housing fee for resident students is $120 for the Regular Session and $60 for the Pre or Post Session. This fee covers room and meals. A private room is $2 additional per week.

Late Registration Fee

A late fee of $10 is charged for failure to complete registration on the designated date.

Car Registration Fee

A car registration fee of $1.00—covering all three sessions—is charged.

Student Activities Fee

[Check or money order payable to Intracollegiate Governmental Association]

Graduate students pay the student activities fee of $3.50 for the Regular Session and $1.75 for the Pre or Post Session.

Resident Council Dues (Men)

[Check or money order payable to Intracollegiate Governmental Association]

Dues of $1 are charged men students living in residence halls during the Regular Session (50¢ for the Pre or Post Session).

Music Fees

In addition to the basic fee, graduate students in music are subject to the following schedule of fees:

Instruction

Piano, Organ, Instrument or Voice one-hour lesson each week	$55 per semester
Instrument Class or Ensemble 2 hours per week	$35 per semester

Rentals

Any Band or Orchestra Instrument (minimum charge—$3)	$1 per week

Practice Time

Piano Room two hours per day (minimum charge—$3)	$1 per week
Organ room two hours per day (minimum charge—$4.50)	$1.50 per week

Instrumental Room

2 hours per day (minimum charge—$1.50)	50¢ per week

Refunds

No portion of the basic fee shall be refunded if the student has attended one-third or more than one-third of the class periods scheduled during a given session.

If a student withdraws from a course, for approved reasons, before one-third of the scheduled class periods have been completed, he shall then be entitled to a refund of one-half of the fees paid.

If a student registers for a course and then withdraws before attending any of its classes, he will receive a refund of all but $10.

Requests for refunds must be made in writing to the Office of Business Affairs.

Refunds will not be made to students who are suspended or dismissed or who drop courses without the approval of the Dean of Graduate Studies.

Registration Procedures Summer–1970

Registration for the Pre, Regular, and Post Graduate Sessions will take place simultaneously in 1970. However, the registration will be divided into two separate periods—the first for those who have received official notice of admission, and the second for those who have completed the necessary admission forms but not yet received notice of admission. Both Registration Procedure I and Registration Procedure II are outlined below. Follow whichever one applies to you.

Along with a copy of this Bulletin, registration cards are being mailed to all students who were enrolled in Summer 1969, Fall 1969, and Spring 1970. Other enrolled students wishing to register for the 1970 Summer Sessions should obtain registration cards from the Graduate Office by (a) telephoning, (b) sending a written request, or (c) calling at the Graduate Office. The cards will be available from April 6 through May 1. (Allow at least one week for mailings.)

Prior to Registration I (May 4 and 5), the student should complete his cards in order to have them in hand as he begins to register.

REGISTRATION PROCEDURE I—for students who have received official notice of admission

May 4 and 5, 1970 3:30 to 7:00 p.m.

STATION I—REGISTRATION CENTERS

1. Choose your Center from the list below and proceed to it, with registration cards in hand.
2. Have your department representative sign your Registration Card/s for each session you will attend.
3. Obtain your Course Card/s for any or all sessions you will attend. (Make certain each course number, title, and section number is correct.)
4. Pick up your Business Office Card/s for each session you will attend.

STATION II—2ND FLOOR ADMINISTRATION BUILDING

1. Go to Check-out Table and turn in your Registration Card/s, your Permit-to-Register, and your Course Card/s.
2. If you received an Optical Scanning Form, turn it in, completed.
3. If you have never completed the Optical Scanning Form, ask for one. Complete and return it to the Graduate Office as soon as possible.

FEES

(Payment to be Made by Mail)

In a change of procedure, all fees required at Registration are to be paid by mail. These fees will not be accepted directly from students at the Business Office during Registration.

Your Business Office Card/s and your check must be mailed to:

Office of Business Affairs
West Chester State College
West Chester, Pa. 19380

Your mailing must be postmarked no later than May 14, or a Late Fee of $10 will be charged.

Make checks payable to: Commonwealth of Pennsylvania. (If payment is for more than one session, one check is acceptable.)

REGISTRATION CENTERS

[*For May 4-5 and Late Registration Days*]

ADMINISTRATION BUILDING—GROUND FLOOR

Art

ANDERSON HALL—GROUND FLOOR

Instructional Media Education

ANDERSON HALL—FIRST FLOOR

Elementary Education
Secondary Education and Professional Studies
Special Education
Urban Education

ANDERSON HALL—SECOND FLOOR

Geography
Mathematics

ANDERSON HALL—THIRD FLOOR

English
Philosophy
Social and Behavioral Sciences

LEARNING RESEARCH CENTER

Educational Research

RECITATION HALL

Foreign Languages
Theatre Arts

106 WEST ROSEDALE AVE.

Health and Physical Education

SCHMUCKER SCIENCE CENTER

Biology
Chemistry
Counselor Education
Physical Science
Physics

SPEECH CLINIC

Speech Pathology

SWOPE HALL

Music

REGISTRATION PROCEDURE II—for students who have completed admission forms but have NOT received official notice of admission

May 6, 1970 3:30 to 7:00 p.m.

STATION I—GRADUATE OFFICE

1. Obtain your Permit-to-Register and your Registration Card/s.

2. Proceed to the OFFICE of the Department giving your course/s.

STATION II—OFFICE OF YOUR DEPARTMENT

1. Complete your Registration Card/s and have your Department Representative sign it/them.

2. Obtain your Course Card/s for each session you will attend. (Make certain each course number, title, and section number is correct.)

3. Pick up your Business Office Card/s and complete it/them.

STATION III—2ND FLOOR ADMINISTRATION BUILDING

1. Turn in your Registration Card/s, your Permit-to-Register, and your Course Card/s.

2. If you received an Optical Scanning Form, turn it in, completed.

3. If you have never completed an Optical Scanning Form, ask for one. Complete and return it to the Graduate Office as soon as possible.

FEES

(Payment to be Made by Mail)

In a change of procedure, all fees required at Registration are to be paid by mail. These fees will not be accepted directly from stu-

dents at the Business Office during Registration.

Your Business Office Card/s and your check must be mailed to:

Office of Business Affairs
West Chester State College
West Chester, Pa. 19380

Your mailing must be postmarked no later than May 14, or a Late Fee of $10 will be charged.

Make checks payable to: Commonwealth of Pennsylvania. (If payment is for more than one session, one check is acceptable.)

LATE REGISTRATION—SUMMER 1970

Enrolled students who find it necessary to register late should obtain registration cards from the Graduate Office by (a) telephoning, (b) sending a written request, or (c) calling at the Graduate Office. (Allow at least one week for mailings.)

Late Registration days will be held as follows:

Late Registration for Pre Session: Monday, May 25, 3:30-7:00 p.m.

Late Registration for Regular Session: Monday, June 22, 8:30-11:30 a.m. and 1:00-3:00 p.m.

Late Registration for Post Session: Monday, August 3, 8:30-11:30 a.m. and 1:00-3:00 p.m.

Procedure for Late Registration

I. Follow procedure described under STATION I—Registration Centers, page 11.

II. Proceed to Business Office (Philips Ballroom).

a. Pay fees—including Late Registration Fee of $10*—at Business Office Table. Turn in Business Office Card.

b. Proceed to Check-Out Table and turn in all remaining cards: Registration Card/s, Permit-to-Register, and Course Card/s.

c. If you received an Optical Scanning Form, turn it in at Check-out Table.

d. If you have never completed the Optical Scanning Form, ask for one at Check-out Table. Complete and return it to the Graduate Office as soon as possible.

All registration cards must be turned in before leaving the Ballroom. If you still have cards in your possession, you will not be properly registered.

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* Charged only once, even though a student registers late for more than one 1970 summer session.

Pre Session

June 1-19, 1970

All classes begin 6 p.m.

Unless otherwise shown, two-credit courses meet for two consecutive class periods and three-credit courses meet for three consecutive class periods.

Monday thru Thursday each week.

REQUIRED COURSE—ALL M.Ed. CURRICULA

EdF 510—Educational Foundations (3)
Section 01—Staff
Section 02—Staff
Section 03—Staff
Section 04—Staff

School of Arts and Letters

ENGLISH

Eng 504—Linguistics for the Elementary School (2)	Mr. Page
Lit 515—Comparative Literature (2)	Staff
Lit 522—Chaucer (2)	Dr. Thomas

FOREIGN LANGUAGES

Fre 514—Advanced French Grammar and Stylistics (3)	Dr. Roberts
Ger 532—German Novelle (3)	Mr. Kulhanek
Spa 500A—Seminar in Methods and Materials of Research (2)	Mr. Lombardi

School of Education

COUNSELOR EDUCATION

EdC 503—Principles and Techniques of Guidance (2) Dr. Hill

EdC 540—Evaluative Methods in Guidance I (2) Mr. Greenberg

EdC 562—Organization and Administration of the Guidance Program (2) Mr. Gottshall

EdC 568—The Professional Counselor in the Elementary School (3) Mr. Gibson

EdC 570—Principles and Techniques of Counseling (2) Mr. Rahn

ELEMENTARY EDUCATION

EdE 501—Introduction to Graduate Study in Elementary Education (2) Mrs. Kulp

EdE 505—The Teacher in the Elementary School (2) Mr. Herres

EdR 510—Foundations of Reading Instruction (3) Mr. Habecker

EdR 514—Reading in the Content Areas (3) Mrs. Chern

EdE 522—Teaching the Communication Skills (2) Mr. Peta

EdR 540—Curriculum Approaches and Practices in Reading (3) Staff
(New course; not described in 1969-70 catalog)

EdE 545—The Kindergarten-Primary Program (2) Miss Good

INSTRUCTIONAL MEDIA EDUCATION

EdM 502—Selection and Effective Utilization of Educational Media (2) Mr. Redmond

EdM 505—The Motion Picture in Education (2) Mr. Spiecker

EdM 508—Instructional Materials in the Elementary School Curriculum (2) Dr. McTavish

EdM 519—Library Science (2) Staff

EdM 552—History and Philosophy of Educational Media (2) Mr. Steinmetz

SECONDARY EDUCATION AND PROFESSIONAL STUDIES

EdF 509—Contemporary Teaching Trends (2) — Staff

EdF 510 Educational Foundations (3)

Section 01—Staff

Section 02—Staff

Section 03—Staff

Section 04—Staff

EdF 523—Education Behind the Iron Curtain (3) — Mr. Deischer
(New course; not listed in 1969-70 catalog)

EdF 590—School Law (2) — Mr. Barth

SPECIAL EDUCATION

EdA 571—Childhood Learning Disabilities (2) — Staff

School of Health and Physical Education

PEd 520—Scientific Principles of Coaching (3) — Mr. Lorback

PEd 531—Adapted Physical Education (3) — Dr. Norris

PEd 562—Administrative and Supervisory Practices in H.P.E.R. and Athletics (3) — Dr. Cottrell

HEd 565—Scientific Bases for Health (3) — Staff

PEd 570—Curriculum in H. & P.E. (3) — Dr. Youmans

PEd 571—Comparative Physical Education (3) — Dr. Sturzebecker

PEd 580—History and Philosophy of Safety Education and Principles of Accident Prevention (3) — Dr. Mitten

School of Music

Mus 509—Music Appreciation in the General Music Program (2) — Dr. Antonowich

School of Sciences and Mathematics

BIOLOGY

Bio 525—Physiology for Teachers (3) — Dr. Dorchester

Bio 539—Insect Morphology (3) — Mr. McDonnell

CHEMISTRY

Che 501—History and Philosophy of Chemistry (2) — Dr. Ashkenaz

Che 513—Principles of Geochemistry (3) — Dr. Bravo

Che 610—Research and Thesis (variable credit) (By appointment) — Staff

MATHEMATICS

Mat 552—Materials for Teaching Secondary School Mathematics (2) — Mr. Weiss

Mat 555—Modern Techniques of Teaching Elementary School Mathematics (2) — Staff

School of Social and Behavioral Sciences

GEOGRAPHY

Geo 503—General Climatology (3) — Dr. Keinard

Geo 507—Advanced Map Interpretation (3) — Mr. Bielski

HISTORY

His 515—Problems in American Constitutional Development (3) — Dr. Riley

His 534—The French Revolution and the Napoleonic Era: 1789-1815 (2) — Dr. Swan

PSYCHOLOGY

Psy 562—Psychology of Personality (2) — Staff

SOCIOLOGY-ANTHROPOLOGY

Soc 531—Social Pathology (3) — Dr. Samuelson

Regular Session

June 22—July 31, 1970

Classes meet Tuesday, June 23, through Friday the first week, and Monday through Friday thereafter. Two-credit courses meet one hour daily and three-credit courses meet 1½ hours daily.

[Exceptions as noted]

REQUIRED COURSE—ALL M.Ed. CURRICULA

8:00

EdF 510—Educational Foundations (3)
Section 01—Staff
Section 02—Staff

9:30

EdF 510—Educational Foundations (3)
Section 03—Staff
Section 04—Staff

11:00

EdF 510—Educational Foundations (3)
Section 05—Staff
Section 06—Staff

School of Arts and Letters

ART

8:00

Art 500—Art Education in the Elementary School (3) Staff

9:30

Art 511—Sculpture (3) — Mrs. Ring

11:00

Art 512—Painting (3) — Mr. Rarick

Art 513—Ceramics (3) — Mr. Stein

ENGLISH

8:00

Eng 500—Methods and Materials of Research (2) — Dr. Berry

Eng 501—Modern Techniques for the Teaching of English (2) — Dr. Bailey

8:30

Hum 500—Humanities (2) — Dr. Garrett / Dr. Mitchell

9:30

Eng 509—The Dialects of Minority Groups in America (3) — Staff

(New course; not described in 1969-70 catalog. For detailed information, communicate with Mr. Willie E. Page, Coordinator, Linguistics Workshop, Department of English.)

Lit 533—Romantic Prose and Poetry (2) — Staff

Lit 537—Emerson and Thoreau (2) — Dr. Jordan

Lit 541—Greek and Roman Literature in Translation (2) — Dr. Garrett

Lit 546—Shakespearean Literary Criticism (2) — Dr. Haviland

11:00

Eng 502—History of the English Language (2) — Dr. Kelly

Lit 521—English Literature to Chaucer (2) — Dr. Jordan

Lit 540—Restoration and Eighteenth Century Drama (2) — Dr. McKenty

FOREIGN LANGUAGES

8:00

Lat 530—Medieval Latin Literature (3) — Dr. Frieman

9:30

Fre 544—Studies in the 19th Century (3) — Dr. Roberts

Ger 525—Bertolt Brecht (3) — Mr. Kulhanek

Lat 527—Roman Historiography (3) — Dr. Frieman

11:00

Fre 541—French Literature of the Renaissance (3) — Mr. Greene

Ger 533—German Lyric Poetry (3) — Mr. Schneider

Spa 544—Masterpieces and Movements in Spanish Literature (3) — Staff

1:00

Spa 534—Spanish Lyric Poetry (3) — Staff

PHILOSOPHY

8:00

Phi 531—Oriental Philosophy (3) — Dr. Struckmeyer

11:00

Phi 530—American Pragmatists (3) — Dr. Platt

SPEECH AND THEATRE

8:30

Sph 525—Workshop in Speech and Communication (2) — Staff

(New course; not described in 1969-70 catalog)

Monday, June 22, thru Saturday, June 27—8:30-4:30.

For further information about this workshop, dealing with integration of the speech arts into the curriculum structure, communicate with Dr. William M. Morehouse, Chairman, Department of Speech and Theatre.

11:00

SpP 544—Survey of Speech Disorders (2) — Staff

SpP 575—Speech Improvement in the Elementary School (3) — Staff

(New course; not described in 1969-70 catalog)

School of Education

COUNSELOR EDUCATION

8:00

EdF 500—Methods and Materials of Research in Education (2) — Dr. Hill

EdC 540—Evaluative Methods in Guidance I (2) — Mr. Greenberg

EdC 562—Organization and Administration of the Guidance Program (2) — Mr. Recktenwald

EdC 567—Group Dynamics (2) — Mr. Rahn

9:30

EdC 541—Evaluative Methods in Guidance II (2) — Mr. Greenberg

EdC 556—Occupational, Educational, and Social Information in Guidance (2) — Mr. Paganelli

EdC 573—Advanced Theory and Methods of Counseling (2) — Mr. Gottshall

11:00

EdC 503—Principles and Techniques of Guidance (2) — Mr. Swiren

EdC 600—Research Report (1) (By appointment) — Dr. Hill

EdC 610—Thesis (3) (By appointment) — Dr. Hill

ELEMENTARY EDUCATION

8:00

EdF 500—Methods and Materials of Research in Education (2) — Dr. Hill

EdR 510—Foundations of Reading Instruction (3) (01) — Mr. Habecker

EdR 521—Reading Practicum: Introduction to Diagnostic Techniques (3) — Staff

(An additional period [1:00-3:30 p.m.] will be scheduled individually for one day a week.)

EdE 530—Social Studies in Elementary Education (2) — Dr. Ross

EdE 553—Child Development and Behavior II (3) — Mrs. Kulp

EdE 561—Guidance in the Elementary School (3) — Mr. Gibson

9:30

EdR 510—Foundations of Reading Instruction (3) (02) — Mr. Habecker

EdR 514—Reading in the Content Areas (3) — Mrs. Haas

EdR 525—Reading Practicum: Corrective and Developmental Techniques (3) — Staff

(An additional period [1:00-3:30 p.m.] will be scheduled individually for one day a week.)

(New course; not described in 1969-70 catalog)

EdE 551—Child Development and Behavior I (3) — Mr. Gibson

11:00

EdE 501—Introduction to Graduate Study in Elementary Education (2) — Mrs. Kulp

EdE 532—Curriculum and Research in Social Studies (2) — Dr. Ross

EdE 547—Elementary School Curriculum (2)
Section 01—Mrs. Haas
Section 02—Mr. Herres

INSTRUCTIONAL MEDIA EDUCATION

8:00

EdF 500—Methods and Materials of Research in Education (2) — Dr. Hill

EdM 520—Designing Instructional Materials (3) — Mr. Steinmetz
(New course; not described in 1969-70 catalog)

EdM 521—The Production of Non-projected Materials (3) — Mr. Spiecker

EdM 555—Learning Theories Related to Educational Media (2) — Dr. McTavish

EdM 560—Organization and Administration of the Educational Media Program (2) — Dr. Strayer

EdM 565—Seminar in Educational Media (Field Study in England) (2) — Dr. Weagley

(For further information communicate with Dr. Richard L. Strayer, West Chester State College)

9:30

EdM 502—Selection and Effective Utilization of Educational Media (2) — Mr. Redmond

11:00

EdM 501—Orientation to Educational Media (3) Dr. McTavish

EdM 519—Library Science (2) Mr. Kelleher

EdM 525—Photography for Teachers (3) Mr. Redmond

SECONDARY EDUCATION AND PROFESSIONAL STUDIES

8:00

EdF 500—Methods and Materials of Research in Education (2) Dr. Hill

EdF 510—Educational Foundations (3)

Section 01—Staff

Section 02—Staff

EdF 521—Contemporary British Education (6) Dr. Bannon

(Travel and study in England and Scotland—month of July. Communicate with Dr. Michael F. Bannon, Associate Dean for Graduate Studies, School of Education, to see whether reservations are still available.)

9:00

EdS 504—Middle School Workshop (4) Mr. Good

Two three-week workshops will be held:

Workshop I—June 23 to July 10 (9:00-12 Noon)
Workshop II—July 13-July 31 (9:00-12 Noon)

9:30

EdF 510—Educational Foundations (3)

Section 03—Staff

Section 04—Staff

EdP 550—Advanced Educational Psychology (3) Dr. Ridley

11:00

EdS 502—Secondary School Curriculum (2) Mr. Gleockler

EdF 510—Educational Foundations (3)

Section 05—Staff

Section 06—Staff

EdS 524—Supervision of Student Teaching (3) Dr. Evans

SPECIAL EDUCATION

8:00

EdA 540—Workshop in Special Education (4) (Meets 8:00 to 12 Noon) — Mr. Freeman

EdA 570—The Mentally Atypical Child (2) — Staff

URBAN EDUCATION

8:00

EdU 501—Curricular Adaptations for the Culturally Disadvantaged (3) — Mr. Leeds

PROGRAM LEADING TO THE M.S. IN EDUCATIONAL RESEARCH

8:00

EdF 500—Methods and Materials of Research in Education (2) — Dr. Hill

9:30

EdS 503—The Emerging Curriculum (2) — Dr. Landin

School of Health and Physical Education

8:00

PEd 500—Methods and Materials of Research in Health and Physical Education (2) — Dr. Youmans

HEd 540—School Health Problems (3) — Mr. Lemcke

PEd 560—Contemporary Problems in H.P.E.R. (3) — Dr. Sturzebecker

PEd 563—Scientific Measurement and Instrumentation (2) — Mr. Steinmetz

PEd 582—Problems in Traffic and Driver Education (3) — Dr. Mitten

9:30

PEd 502—Elementary Physical Education Workshop (2) — Mr. Wilkinson

PEd 530—Scientific Bases for Physical Education (3) — Dr. Norris

PEd 561—Techniques of Measurement and Evaluation in Health and Physical Education (3) — Mr. Lorback

PEd 591—Research Project Seminar I (2) — Dr. Cochran, Dr. Norris

PEd 592—Research Project Seminar II (1) — Dr. Serpico, Dr. Sturzebecker, Dr. Young

(Staff listed is available for either Seminar)

11:00

PEd 550—Historical and Philosophical Bases for Health and Physical Education (3) — Dr. Young

PEd 551—Seminar in Professional Literature in Health, Physical Education, and Recreation (3) — Dr. Norris

PEd 564—Biodynamics of Human Performance (3) — Mr. Lorback

PEd 572—The Child and Physical Education (3) — Dr. Cochran

By appointment

PEd 593—Thesis Seminar (2) — Staff

PEd 610—Thesis (4) — Staff

School of Music

8:30

Hum 500—Humanities (2) — Dr. Garrett, Dr. Mitchell

Mus 500—Methods and Materials of Research (2) — Mr. Sprenkle

Mus 528—Accompanying (2) — Mr. Whitten

Mus 559—Choral Literature (2) — Mr. Sweet

9:30

Mus 511—Administration of Public School Music (2) — Dr. Carey

Mus 551—Vocal Pedagogy (2) — Mr. Sweet

Mus 585—Advanced Band Arranging (2) — Mr. Barrow

Mus 502—Aspects of Musical Style II (3) (9:30-11) — Dr. Wright

10:30

Mus 510—Current Trends in Music Education (2)	Dr. Antonowich
Mus 523—Brass Ensemble (2)	Mr. Barrow
Mus 529—Vocal Diction I (2)	Miss Sheppard
Mus 562—String Literature (2)	Mr. Smith
Mus 583—Contemporary Music (2)	Mr. Wells

11:30

SyO 519–22—Orchestra (1)	Dr. Johns
Mus 533—Advanced Choral Conducting (2)	Mr. Sweet
Mus 566—Study and Appreciation of the Opera (2)	Miss Williams
Mus 569—Seminar in Electronic Music (2)	Dr. McClellan

1:00

Mus 531–32—Opera Workshop (2)	Mr. Sweet
Mus 561—Brass Literature (2)	Mr. Barrow
Mus 580—Music of the Baroque Period (2)	Dr. Parris
Mus 589—Modal Counterpoint I (2)	Dr. Wilkinson

2:00

Cho 519–22—Choir (1)	Mr. Sweet
Mus 534—Advanced Instrumental Conducting (2)	Mr. Carson

3:00

CMB 519–22—Band (1)	Mr. Carson
By appointment	
Mus 598—Research Seminar in Music (2)	Mr. Sprenkle
Mus 600—Research Report (1)	Mr. Sprenkle
Mus 610—Thesis (3)	Staff
Mus 537–42—Instruments, Individual Lessons (1)	Staff
Pia 537–42—Piano or Organ, Individual Lessons (1)	Staff
Voi 537–42—Voice, Individual Lessons (1)	Staff

School of Sciences and Mathematics

BIOLOGY

8:00

Bio 538—Systematic Zoology (3) — Mr. McDonnell

9:30

Bio 503—Modern Techniques of Teaching Biology (2) — Mr. Skillen

11:00

Bio 526—Biochemistry I (3) — Dr. Dorchester

CHEMISTRY

9:30

Che 541—Physical Chemistry for Teachers (3) — Dr. Rudnick

11:00

Che 522—Instrumental Methods of Analysis (3) — Dr. Rachinsky
(Lab 12:30-4:00 Mon thru Thur)

By appointment

Che 610—Research and Thesis (variable credit) — Staff

MATHEMATICS

8:00

Mat 501—Fundamental Concepts of Mathematics I (3) — Miss Childs

Mat 503—History of Mathematics (3) — Mr. Milliman

9:30

Mat 530—Geometry for the Elementary Grades (3) — Dr. Montemuro

Mat 543—Topics in Differential Equations (3) — Mr. Moser

11:00

Mat 535—Point Set Topology (3) — Mr. Brantan

Mat 551—Secondary School Mathematics for the Low Achiever (2) — Mr. Weiss

CSc 501—Introduction to Computer Programming (3) — Staff

PHYSICAL SCIENCE AND PHYSICS

8:00

PhS 513—Modern Physics for Teachers (3) — Mr. Smith

Sci 520—New Trends in Elementary School Science Curriculum (3) — Mr. Widick

Workshop in Aerospace-Oceanography (6) — Dr. Rickert

PhS 534—Workshop in Aerospace Science
PhS 540—Principles of Oceanography

(PhS 534 and PhS 540 are new courses; not described in 1969-70 catalog)

June 22-July 31

(Three weeks—Abingdon School District with NASA personnel. Three weeks—field trip, including one week at Marine Science Center, Lewes, Delaware; and travel to Kennedy Space Center and Florida coast.)

Request brochure and application form from Dr. Russell K. Rickert, Dean, School of Sciences and Mathematics.

9:30

PhS 503—Principles of Physical Geology (3) — Dr. Greenberg

Phy 530—General Astronomy (3) — Mr. Reed

11:00

PhS 501—Historical Geology (3) — Dr. Greenberg

Sci 595—Elementary School Science Instruction (3) — Mr. Widick

(For course description, see PhS 595 in 1969-70 catalog)

School of Social and Behavioral Sciences

ECONOMICS

9:30

Eco 531—Comparative Economic Systems (3) — Dr. Thorson

GEOGRAPHY

8:00

Geo 545—Geography of Europe (3) — Dr. Langdon

9:30

Geo 540—Geography of the United States (3) — Dr. Keinard

Geo 585 and Geo 586—Combination Geography Field Study Courses (6)

Students must enroll in both courses, since they complement each other:

Geo 585—Geography Field Methods — Mr. Bielski

Geo 586—Area Field Study in Geography (meets at 11:00) — Mr. Thompson

Occasional sessions will be devoted to field trips and will continue into the afternoons. Since class size is limited and transportation must be pre-arranged, interested students should get in touch with Mr. Andrew Thompson, Department of Geography, for early enrollment.

11:00

Geo 584—Modern Techniques in Teaching Geography (3) — Mr. Grassel

Geo 586—See above

HISTORY

8:00

His 516—Recent American Diplomatic History (2) — Dr. Everett

His 536—Europe Since 1914 (2) — Dr. Soldon

9:30

His 524—Studies in the History and Culture of South Asia (3) — Mr. Young

11:00

His 514—The United States as a World Power: 1919-Present (2) — Dr. Everett

POLITICAL SCIENCE

11:00

PSc 532—International Relations (3) — Dr. Harding

PSYCHOLOGY

8:00

Psy 552—Seminar in Human Development and Behavior: Adolescence (3) — Staff

9:30

Psy 554—Seminar: Adolescent Case Studies (3) — Staff

11:00

Psy 501—Introductory Statistics for the Behavioral Sciences (2) — Dr. Morse

SOCIAL SCIENCE

9:30

SSc 502—Methods and Materials for Teaching Social Studies (2) — Mr. Shaffer

11:00

SSc 500—Methods and Materials of Research in the Social Sciences (2) — Dr. Carlson

SOCIOLOGY-ANTHROPOLOGY

9:30

Soc 533—Intergroup Relations (3) Dr. Samuelson
(Theme: Minorities in American Society)

NATIONAL SCIENCE FOUNDATION SUMMER INSTITUTE IN MATHEMATICS

Foundations of Algebra for Junior High School Teachers
Foundations of Geometry for Junior High School Teachers
Seminar in Teaching of Junior High School Mathematics

Admission to this program, which takes place during the Regular Session, is limited to those granted National Science Foundation stipends. For further information contact the Director of the Institute, Department of Mathematics. The deadline for submission of application is February 15, 1970.

Post Session

August 3—August 21, 1970

Classes meet Tuesday, August 4, through Friday the first week, and Monday through Friday the second and third weeks. Two-credit courses meet from 8:00-9:00 a.m. and from 10:00-11:00 a.m. Three-credit courses meet from 8:00-9:30 a.m. and from 10:30-12 noon. (Exceptions as noted)

REQUIRED COURSE—ALL M.Ed. CURRICULA

EdF 510—Educational Foundations (3) — Staff

School of Arts and Letters

ENGLISH

Eng 505—Linguistics for the Secondary School (2) — Mr. Page

Eng 508—Techniques for Teaching English to Speakers of Other Languages (3) — Staff

(New course; not described in 1969-70 catalog. For detailed information, communicate with Mr. Willie E. Page, Coordinator, Linguistics Workshop, Department of English.)

Lit 512—American Literary Criticism (2) — Dr. Berry

Lit 517—Literary Spokesmen for American Ideas (2) — Dr. Bailey

Lit 550—Literature for the Elementary School (2) — Dr. Taylor

FOREIGN LANGUAGES

Lat 511—Comparative Grammar of Greek and Latin (2) — Dr. Frieman

PHILOSOPHY

Phi 510—Existentialism (3) — Mr. Banyacski

School of Education

COUNSELOR EDUCATION

EdC 503—Principles and Techniques of Guidance (2) — Mr. Paganelli

EdC 600—Research Report (1) (By appointment) — Dr. Hill

EdC 610—Thesis (3) (By appointment) — Dr. Hill

ELEMENTARY EDUCATION

EdR 516—Reading Disabilities (2) — Mrs. Chern

EdE 543—Creative Expression in the Elementary School (2) — Mr. Habecker

EdE 551—Child Development and Behavior I (3) — Mr. Gibson

INSTRUCTIONAL MEDIA EDUCATION

EdM 523—The Production of Projected Still Materials (3) — Dr. Weagley

EdM 533—Television in Education (3) — Mr. Redmond

EdM 534—Instructional TV Production I (3) — Staff

(New course not described in 1969-70 catalog)

EdM 565—Seminar in Educational Media (2) — Mr. Spiecker

SECONDARY EDUCATION AND PROFESSIONAL STUDIES

EdS 506—The Junior High School (2) — Staff

EdF 510—Educational Foundations (3) — Staff

EdS 566—The Activity Program in the Secondary School (2) — Mr. Barth

URBAN EDUCATION

EdU 502—Human Relations in the School and Community (3) — Mr. Leeds

School of Health and Physical Education

PEd 510—School and Community Recreation (3) — Mr. Davis

PEd 534—Modern Principles of Athletic Training (3) — Mr. Donley

HEd 567—Sociological Bases for Health (3) — Staff

PEd 583—Psychology in Safety Education and Accident Prevention (3) — Dr. Mitten

School of Music

Mus 506—Teaching Music Appreciation in the Elementary Grades (2) — Miss Vandever

Mus 552—Marching Band Techniques and Materials (2) — Mr. Carson

Mus 553—String Pedagogy (2) — Dr. Johns

(Register through course professor)

By appointment

Mus 599—Research Seminar in Music (1) — Mr. Sprenkle

School of Sciences and Mathematics

BIOLOGY

Bio 501—Introductory Biochemistry for Teachers (3) — Dr. Dorchester

Bio 541—Economic Entomology (3) — Mr. McDonnell

CHEMISTRY

Che 610—Research and Thesis (variable credit) — Staff

(By appointment)

MATHEMATICS

Mat 501—Fundamental Concepts of Mathematics I (3) — Mr. Mandelbaum

Mat 556—Development of the Mathematics Curriculum in the Elementary Grades (2) — Dr. Montemuro

PHYSICAL SCIENCE

PhS 571—Astronomy for the Elementary Teacher (3) — Mr. Reed

Sci 523—Instructional Materials in Elementary Science (3) — Mr. Widick

(New course; not described in 1969-70 catalog)

School of Social and Behavioral Sciences

GEOGRAPHY

Geo 523—Advanced Conservation of Natural Resources (3)

Course I—Conservation of U. S. Resources: A Workshop — Mr. Holingjak

(or)

Course II—Seminar in Problems and Research in Resource Management — Dr. Keinard

Students interested in either Course I or Course II should get in touch with Dr. Alvin S. Keinard, Chairman, Geography Department, early, for course approval and enrollment. Scholarships are available for both courses.

Geo 586—Area Field Study in Puerto Rico (3) — Dr. Langdon

Students interested in this field-study course should contact Dr. George Langdon, Department of Geography, early, for details and travel reservations.

HISTORY

His 540—The Evolution of Modern Russia (3) — Dr. Swan

POLITICAL SCIENCE

PSc 533—The American Legislative Process (3) — Mr. Burns

PSYCHOLOGY

Psy 563—Mental Hygiene (2) — Staff

SOCIOLOGY-ANTHROPOLOGY

Soc 550—Seminar in Sociology (2) — Dr. Samuelson
(Theme: Urban Problems)

ARCHIVES

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